

Getting the band together: towards a prototype mobile app for getting a balanced line-up for starting bands

Masterthesis Business Informatics

Stephan den Ouden, Universiteit Utrecht

4118928

Supervisors:

Ioanna Lykourantzou, Universiteit Utrecht

Frans Wiering, Universiteit Utrecht

Judith Masthoff, Universiteit Utrecht



Universiteit Utrecht

Abstract

Generally, it is hard and counter-intuitive for people to step outside of their comfort zone and go out there and meet new people to do activities with. An example of such an activity is making music. Because of this occurrence we are missing out on a lot of potentially valuable social links and successful music bands. People who play and/or write music naturally want to find people to play their music for and, more ideally, with. However, it is hard to find the right people to do that with and for that formation to potentially be successful. Research has found that balanced work groups are more successful than unbalanced groups in achieving a certain goal. These balanced work groups were achieved by using an Adaptive Interactive System (AIS) that is built around the DISC personality assessment. This study researches if this system can also be applied in the world of music, by forming balanced music bands. Also, a design framework is proposed that can help building a mobile application that uses this system. For this, a literature review, interviews with conservatory teachers, and focus groups with students from one of those conservatories have been performed. The literature review provides the concepts that are investigated during the interviews. The focus groups are used for investigating these same concepts (from another perspective) and for the requirements engineering of the design framework. The analyses of the interviews and focus groups tell us that it is indeed possible to use an AIS towards the goal of building balanced bands, while also finding out that this could end up in potentially more successful bands. However, some adjustments need to be made to the original system for it to work most optimal in a creative realm, like music, in contrast to the task-based enterprise realm from the working groups in earlier research.

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1 Introduction

Forming a group that can collaborate in an optimal way for the purposes of accomplishing a creative task, for example a job-related or an artistic one, can be challenging. Especially if all people available for the project are unknown to each other, it is hard to figure out how to pick out the potentially most effective and efficient teams from all those people. One could just put some people together in groups, but, except when very lucky, this will most probably not end up in the best team that could have been assembled. The biggest reason for this is that the different personality traits of people working in a team can influence the effectiveness of the team highly.

Research has been performed on how personality affects individual work performance (Furnham, 1999; Halfhill et al., 2005), as well as team formation (Neumann et al., 1999; Odo et al., 2019). For example, it has been found that a team of imbalanced personalities, when there are a lot of leader-types in one group that could clash with each other, mostly leads to a negative outcome. This is in terms of either group creativity or emotional satisfaction of the team members (Neumann et al., 1999).

Lykourantzou et al. (2016) have proven the relevance of a balanced team in Crowd work teams. In the same paper they have also shown how to form such a balanced team filled with people who do not know each other. A profiling tool they used for this is a personality assessment test called DISC. This personality assessment test consists out of four main traits, namely Dominance, Influence, Steadiness, and Conscientiousness. Reynierse et al. (2000) state that the DISC measures of personality have their origins in the work of Marston (1928), who developed a model of these four distinctive forms of human emotions and the later construction of Activity Vector Analysis (AVA) by Clarke (Clarke, 1956), a measurement system that identifies four numerical vectors based on this model.

This thesis starts with the assumption that in the music world there is a similar group formation problem. If one knows some people with whom one can form a band, most of the times one knows what he or she is in for, but they can still run into trouble. For example, when the person starting the band feels they are the band leader because they are the one who put the group together. However, without knowing they have put someone else in the band with a high score for D(ominance) in the DISC assessment test. Sooner or later the formative member of the band and the member with a high D(ominance) rating will have clashes with each other, which is not healthy for everyone in the band staying together. On the other hand, if one wants to form a band and knows nobody to group up with (same interests, or skill level, e.g.), it is very hard to be successful. A good reason for this, amongst others, could be the *emotional intelligence* (Druskat, 2001), which the group would need to build from the ground up. Druskat and Wolff (2001) have proven that emotional intelligence can be as important in a team being successful as the members' individual intelligence and capabilities. Their research states that three factors are essential to a group's emotional intelligence: trust among members, a sense of group identity, and a sense of group efficacy. These three factors will already be present in some form when one creates a team or, in case of this research, a band with friends. However, it is yet another barrier to overcome when one needs to form a group with strangers. The end goal of this thesis is a method aiming at facilitating the creation of groups that have a good emotional intelligence, even when consisting out of people who are strangers to each other.

To this end, this thesis researches if a smart profiling mechanism can be applied towards forming a successful band and identify the design requirements of a mobile application integrating such a mechanism. Characteristics for a user profile that can enable us to design a tool which brings people together in a successful line-up is researched. Examples of these characteristics are standard demographics (age, maybe gender), type of instrument, skill, and (important for this research) personality.

The personality part of the research is influenced by the DISC assessment and the Big-5

assessment test (Hurtz, 2005). The Big 5 is a test that includes, among others, conscientiousness, which is interesting to investigate for this research.

1.1 Contributions

This research provides contributions in different ways. First, in a societal way. This research has the potential to bring people together who would maybe never even meet each other without it. Pillet-Shore (2011) states that meeting someone new can be highly fulfilling and makes possible the formation of a new interpersonal tie, creating opportunities for links between, and within, social networks. However, it is also very challenging. The thought and the actual process of meeting new people can induce high levels of cortisol, the stress hormone, which is a feeling people much rather evade than pursue. (Gunnar & Donzella, 2002). Thus, this research can provide a helpful tool for people struggling with this, specifically finding people to form a music band with. When students of different conservatories were asked whether they would like to use this kind of application (app) and would recommend it to others 45 out 53 said yes to both questions and 4 would only recommend it to others. This shows that there is an obvious need for this kind of application.

Second, this research provides contributions in a scientific way. It combines business psychology and Human Computer Interaction (HCI) to fill a gap in the research that is there. Related work can be found in the world of business, but this type of research has not been performed yet in the creative sector. Therefore, we plan to focus on the world of music. It aims to find the requirements needed to create a system that takes advantage of group dynamics, personality, and collaboration to create an adaptive interactive system that helps people find new people to make music with.

1.2 Research Questions

For clarity the goal for this research will first be stated. The template of Wieringa (2014) is used for this:

This research aims to *construct* an adaptive interactive system that allows people to create the ideal line-up for their band, which is (initially) built up out of strangers. This will be done *by* applying theory from different fields of work into a system *that* musicians can use when in the forming phase of their musical collaboration journey *in order to* take away the anxiety and difficulty of being in that phase.

This goal is structured on two different research questions.

RQ1: (How) can we design a profiling method to help people find a balanced and functional line-up?

This research question is answered through the validation of different hypotheses. These hypotheses are created with the help of a literature review. The literature that is used is grounded in, but not limited to, different topics such as *group dynamics*, *collaboration*, and *team psychology*. An additional goal is to provide a bedrock for future work to build upon, as this work is exploratory. Thus, it is possible to create more hypotheses than can be validated in this research.

RQ2: Which are the design requirements of a mobile app incorporating this profiling method?

This research question is answered through the use of requirements elicitation through focus groups. In the focus groups stakeholders are asked questions about potential features, inspired by similar applications, but also what they would like to see featured themselves when they would use the app. Focus groups have been proven to work for requirements elicitation, hence the usage of this technique for answering this research question (Goguen & Linde, 1993). Additionally the validation of the hypotheses inform the design decisions made for this RQ.

1.3 Outline

Figure 1 shows a visual representation of the outline. The outline is as follows. Section 2 will be about the literary review. Important findings of related and relevant works will be stated here. These will be drawn from different fields of work, as this is a multidisciplinary research. At the end of this section there will be a subsection about the building of the hypotheses. The hypotheses are used to answer RQ1 and are drawn from the found literature. In section 3 the research methods used for accepting or rejecting these hypotheses will be stated. When that has been decided the methods can be performed and will be analyzed in section 4. Section 5 talks about the design framework, the result of this report. This will be followed by the discussion in section 6 and the conclusion and future work in section 7.



Figure 1: Visual representation of outline

2 Literature Review

This section discusses related literature. The literature is used in hypothesis building, which will help identify and implement the research methods. This section firstly discusses the concept of *Communities of Practice* and secondly *group dynamics*. Where relevant, potential hypotheses are included that have been built on the preceding literature review part. At the end of this chapter the three hypotheses that have been chosen to research in this study are stated.

2.1 Communities of practice

An important part of this research revolves around group dynamics. Forsyth (2018) states that “group dynamics are the influential actions, processes, and changes that occur within and between groups.” The concept *Communities of Practice* (CoP), introduced by Wenger (1998), is one concept that can help to provide background knowledge about group dynamics. In this paper, Wenger states that “Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.” Examples given by Wenger (2011) are a tribe learning to survive, but also a band of artists seeking forms of expression. This shows that a band getting together and trying to play music with each other is a form of a CoP. But what exactly is a CoP and how is it applied in music?

A CoP needs three things to be able to exist. A domain, a community, naturally, and a practice. Simply stated, a domain is the field of practice the CoP takes place in and it is also the common understanding of that field by its members. The *community* are the people that take part in a CoP. And the *practice* is what the group does within its specific domain. Applied to the domain subject of this research project, namely forming a band, the domain is ‘music’, the community is the ‘band’ (or the potential bandmembers from the pool of all musicians) itself, and the practice is ‘playing’ (and maybe writing) the music they like. Wenger (2018) states that a CoP differentiates itself from other forms of communities in the following three dimensions:

1. A CoP is a *joint enterprise*, which is the common purpose that binds people together and should continually be renegotiated by its members. It is a process of constant renegotiation towards a “regime of mutual accountability”. In other types of communities this is not always a requirement, for example in project teams everyone is driven by separate goals and results. There is not one single understanding that binds the people together, but several different ones.
2. A CoP functions through its *mutual engagement*, which amounts to the interactions among the members of the community. These interactions and relationships should bind members together in a social entity. This is the source of coherence for the community. This is for example not the case in a Community of Information, where everybody (also non practitioners) can interact and subtract information from the community. In a CoP that would be inappropriate, as it is expected that anyone has a form of expertise and participation in the practice the CoP performs.
3. The capability that it produces should emerge out of their *shared repertoire* of communal resources. This is the most direct output of the CoP. Forms of these resources, when applied to this research, could be songs everybody knows how to play, but also stories and theories that everybody know and share and building on that together. These are the resources that negotiate meaning for the CoP. The same example for differentiation as for joint enterprise holds here. As in a project/work team not all people can perform the whole repertoire on a consistent basis, because everyone has their own function group within this kind of team.

2.1.1 Communities of Practice in the music domain

Kenny (2014) performed a case study, which was on a music education partnership between a third level institution (the name of a certain level of education given in Ireland, the university and technology sector are part of this institution), a resource agency (a community that provides help in the cultural or environmental sector) and a primary school. This paper uses a theoretical framework, based on the notion of communities of practice, to underpin the study and data analysis. With this the research seeks to “unpack”, problematize, and interpret the development of a community of musical practice (CoMP). Furthermore, the complexities that surround issues such as membership and role within partnership initiatives were considered. While working with the children, the theoretical framework provided by CoP proved to be very valuable in framing teamwork (through high levels of mutual engagement), negotiating outlines and guidelines (through a well-defined joint enterprise), and stating the tools and resources present and necessary (through an expansive shared repertoire). This case study shows how relevant the CoP framework and its key components can be within a research as the present one. There are differences between the two projects. While the research of Kenny focused mainly on music education, the present project is about how to create the most balanced band possible even when its forming members are strangers to each other. Also, in a CoP the members can just actively participate occasionally, but the CoP will still function via other routes. A music band needs to be together as much as possible to get as tight (socially and musically) as possible. Nevertheless, there is also a significant resemblance between the studies, because both benefit from studying the social(-cultural) processes that occur within a CoP when applied to music. Taking into account that CoMPs have been researched, but with a slightly different perspective then used for this study we proceed in formulating our first hypothesis to help answer the first research question:

Hypothesis 1: Bands with members that have shared high levels of i) joint enterprise, ii) mutual engagement, and iii) a shared repertoire are expected to be more harmonious than bands who score low on these properties.

2.2 Group Dynamics

In this section, the importance of group dynamics within this research are discussed. This section delves deeper into that concept. Forsyth (2018) states that “group dynamics are the influential actions, processes, and changes that occur within and between groups”. People have a natural tendency to join with other people and form a group, giving birth to a whole new entity that is potentially able to perform tasks that would not be possible for one of its members solely. A group inherently has a goal, even a group designed to just relax and do nothing (for example for people who overwork themselves) still has a goal. Forsyth (2018) summarizes a model for goal classification, proposed by social psychologist Joseph E. McGrath. This model features four group goals: 1) generate ideas, 2) choose between options, 3) negotiate solutions to a conflict, and 4) execute and perform tasks.

Forsyth also talks about *interdependence* and *cohesiveness of groups*. He describes interdependence as “a mutual form of dependence, as when one’s outcomes, actions, thoughts, feelings, and experiences are influenced, to

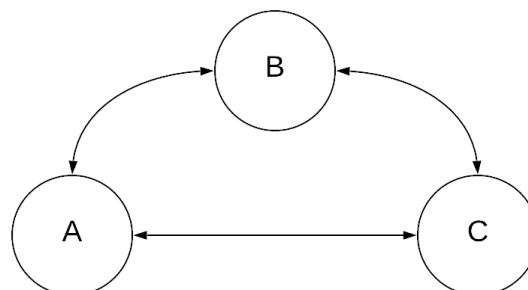


Figure 2. The most ideal interdependence seen in bands: ‘Symmetric interdependence with reciprocity’ (Forsyth, 2018)

some degree, by other people [in a group]”. He moves on to provide a model that shows four different forms of interdependence. The four models differ in symmetric, sequential, and hierarchic nature and are as follows: 1) *Symmetric interdependence with reciprocity*, 2) *Hierarchical interdependence without reciprocity*, 3) *Hierarchical interdependence with (unequal) reciprocity*, and 4) *Sequential interdependence without reciprocity*. For this report the focus will be on the *Symmetric interdependence with reciprocity* (see figure 2). This is a flat group where influence among the members is equal. This form of interdependence will be the most common in the bands in this research, which consist of people who are all driven enough to use an app for forming this group. It could be argued that there are enough bands with a hierarchical structure, because of the use of a band leader (a conductor in an orchestra, a musical director in the band of a solo artist, or the solo artist him/herself). However, those musical groups are not the focus of this research. Every action of a member of the band has an equal amount of influence as actions of another member.

Hypothesis 2: *A band that has symmetric interdependence with reciprocity will be more balanced than a band that features another form of interdependence or one that does not even have any form of interdependence.*

Forsyth (2018) describes a group's *cohesion* as “[t]he solidarity or unity of a group resulting from the development of strong and mutual interpersonal bonds among members and group-level forces that unify the group, such as shared commitment to group goals”. An example he gives are the conversations between the members. However mundane they could be, it drives the group a step closer to each other and to their goals. The cohesiveness of a group could also be strengthened by inside jokes or, applied to this research, that one band everyone in the group likes to listen to.

Hogg & Hardie (1992) state that a group's cohesiveness goes further than attraction of the members to each other. Individuals could not like each other, but when they join bonds, they can still experience feelings of unity. Lastly, groups can perform certain tasks better, or worse, than expected from the individual talents that are available within the group. This is all due to the relationship between the group's goals, its interdependence, and its cohesiveness, confirming the old saying that a “group is more than just a sum of its parts”.

2.2.1 Group Formation

But what is needed to form a group where these dynamics are as good as possible to make them at their most effective and successful? Different papers (Morgeson et al. (2005), Lykourantzou et al. (2016a), Lykourantzou et al. (2016b)) help to give insight towards that goal. Morgeson et al. (2005) discuss the importance of *social skills*, *personality characteristics*, and *teamwork knowledge* when selecting individuals for a team-based job. They state that “there is reason to believe that the knowledge, skill, ability, and other characteristics (KSAOs) needed for successful performance in team contexts might be somewhat different than the KSAOs needed in more traditional individually oriented jobs.” (Morgeson et al., 2005). However, they found that other research has noted that there are problems which should be considered that are seldom considered when selecting individuals for a team-based job. (Jones et al. (2000). That's why they examined the validity of personality, social skills, and teamwork knowledge in their works.

They find two different forms of group performance: *task- and contextual performance*. Task performance is the actual performing of the ‘job description’, support the organization/group towards making their goal. Contextual performance are the activities that support the organizational, social, and psychological environment (Borman & Motowidlo, 1993). These activities help towards effective team functioning. It could be argued that contextual performance at an individual level can also be a task performance at the group's level. For example, imagine the case where the guitarist of a band writes a song and s/he might feel shortsighted that s/he cannot find a suitable drum part, while s/he

normally does not struggle with this. The drummer drops their own songwriting and helps the guitarist with their problem in performing their tasks and cheers them up. This helps the band getting closer to one of their goals (building a repertoire of original songs), which is a task performance, but this also shows the social skills needed to perform in a group, which is the individual contextual performance of the drummer. Morgeson et al. (2005) state that the social skills needed for contextual performance, are concepts such as: social perceptiveness, coordination, persuasion, negotiation, instructing, and helping others (Mumford, Peterson, & Childs, 1999). These skills help with adjusting one's behavior towards different situational demands, understanding other people, and influence and control their responses to yours. Other research (Borman & Motowidlo, 1993) confirms that these social skills are important predictors for good contextual performance.

Hypothesis 3: *Bands consisting of members with good social skills, and teamwork knowledge on average will collaborate better than teams who score lower (on average) on these properties.*

Lykourantzou et al. (2016a, b) found that in online and remote work environments, the personalities of different people and their interpersonal compatibility can significantly affect the performance of the team. They also found that when personalities of team members mix nicely these teams communicate more effectively, among other positive traits of a well-oiled team, but when they are not, interpersonal conflicts and other tensions tend to be experienced in those teams.

When looking at different personality tests for their assessments they found that teams with an imbalanced leadership (either a clash of two leader types or an altogether void) could end up with poor outcomes of their output. For that reason, the DISC personality assessment was chosen in their research. DISC helped them build balanced teams. This paper also makes use of DISC for building balanced teams, but in the form of bands. The research done by Lykourantzou et al. will provide a good starting point, in many aspects, for that.

Some research (Tuckman et al. (1977); Gilley et al. (2010)) found that there are five stages for effective team growing and development. These stages are the *forming, storming, norming, performing,* and *adjourning* of the group. Lykourantzou et al. (2016) found that imbalanced groups only reached the second stage, while the balanced groups made it through all stages, and would want to work together again at another moment in the future.

Another personality assessment test has been used in recruitment, called the Big Five. This is an assessment method that has been built over decennia of research on correlations between personality traits and the work floor. (Barack & Mount, 1991) It consists out of five dimensions, naturally, and while the naming of these dimensions still has not hit its definite form yet, this report uses the names its sources also used (Barack (1991); Hurtz (2000)). The naming is based on the paper by Digman (1990) and uses the following naming for the five factors: *Conscientiousness; Emotional stability; Agreeableness; Extraversion; and Openness to experience.* Hurtz et al (2000) found in their research, validating the use of the Big five the decade after it was very popular, that *conscientiousness* is the most proven positive trait on the work floor and scored the highest in their tests. More is described about these two personality assessment tests in the method section, but their placement here helps a lot with building the next hypothesis.

Hypothesis 4: *Personality is important in building a balanced band and the Big five and DISC assessment methods can be used to ingrain that in the line-up of the band.*

2.2.2 Collaboration

When teams are formed, the members will have to collaborate with each other. For this part of the research some other literature was found. Pulman (2014) researched collaboration on the perception and group dynamics level during bands rehearsing. His case study compared tutor-picked bands versus

bands the students picked themselves. He found that Hartley (2006), a group communication expert who also is a drummer, has defined three levels of analysis needed to comprehend group dynamics: social and cultural background; tasks and procedures; and, what he has entitled, 'the interpersonal underworld'. The first two have been spoken about earlier in this chapter, but the third one is interesting; the interpersonal underworld of emotional attachments. This could for example manifest itself in tensions and moments of mutual success during rehearsals. Student selected groups did perform reasonably and tended to be based around established groups of friendships, skills, and mutual interests in music styles. The tutor-selected groups turned out to be most effective, balanced, and, almost incidentally, made the best use of the three levels defined by Hartley. In the tutor selected groups everyone found their place in the band, even when they did not know everyone as well as the other. This gives insight that people who might not even know each other initially could be formed into a well performing band, when using knowledge about team dynamics.

This and some interviews uncovered some group dynamics characteristics that could be important for this research. The students found that their biggest concern was the *synchronous determination* of the individual band members, which can be seen when everyone has prepared to an equal level before showing up to the rehearsals. The tutors found that they liked to suggest strategies during the rehearsals that might increase *trust* between the band members, increasing their *coherence*, also a concept seen earlier in this section. Another concern raised by students was *rehearsal fatigue* because of inefficient use of their time, while the tutors raised concerns about the impact of the behavior of some stereotypical personalities: the 'alpha dog', 'loner', and 'free rider'. These last personalities can also, somewhat, be found in the DISC assessment discussed earlier. Furthermore, the paper by Pulman provided some information that could be useful for the interviews, surveys, and the eventual design of the app. For example, establishing if a band wants to play originals or covers could be a good feature for the app to choose between, but also the characteristics named by the students in this paper (attitude; listening to others; confidence; modesty; being open-minded; criticism; patience) can be interesting to take into account for the surveys and interviews.

Hypothesis 5: Bands that have a high score for synchronous determination, trust, and coherence are more effective and feel better than bands that score low on these properties.

Lastly, Sawyer (2006) talks about team creativity in musical performance and collaboration in his research. He defines three key characteristics in group creativity (in this context), namely *improvisation*, *collaboration*, and *emergence*. The first two speak for themselves or have already been discussed earlier. The last one gives another perspective of an earlier discussed phenomenon: a group is more than a sum of its parts. He states that "Recent studies of emergence by complexity scholars suggest that emergent phenomena are unpredictable, contingent and hard to explain in terms of the group's components." (Sawyer (2006)). It seems like it describes phenomena that could happen at any moment and could be either advantageous or disadvantageous. It could be argued the emergence happens when improvisation and collaboration are combined.

2.2.3 Bandmember personalities

Torrance & Bugos (2017) researched if there is a relationship between personality types and choice of ensemble (instrumentalist or vocalist). For this they used the Big five assessment test, but they also considered the Myers-Briggs test, on which there will be more later in this section. They found, for example, that vocalists score significantly higher on extroversion and explained that (among other things) this can be traced back to the craft of learning an instrument, which initially is a fairly solitary activity. Furthermore, they found that a lot of the musicians score high on openness and conscientiousness. This data is consistent with the data found in the research of Corrigan et al. (2013) which indicate that especially conscientiousness is an important trait to have for musicians. This

research adds to the value the conscientiousness trait from the Big five assessment test (and the C in DISC) can have for this study.

MacLellan (2011) has researched the differences in personality types among high school bands, orchestras and choir members using the Myers-Briggs test (MBT), which is an assessment test based on a theory of Carl Jung. This theory states “that people possess unconscious archetypes, which are predispositions to respond to the world in certain ways.” (Ellis et al., 2009). This theory makes the MBT different from the DISC assessment in that it does not measure personalities in a continuum (DISC has four traits and makes combinations possible through percentages of the four traits), but wants to identify a person’s *personality status* somewhere in its matrix of sixteen factors (extravert vs. introvert, sensing vs intuition, thinking vs. feeling, judging vs perceiving), which are static. This means you can only be one of the sixteen types. MacLellan found that research had been performed on certain MBT scores that occurred more with certain instruments, thus trying to explain the choice for an instrument to a certain personality status (like Torrance & Bugos (2017)). MacLellan seeks to add to this research by performing this test in ensemble form, rather than per instrument. Additionally, the research seeks to help teachers optimizing their curriculum for the different student ensembles, based on the found MBT scores.

The research on these studies helps giving this study insight in how to work with music students, and also gives insight in what already has been done with personality tests and music bands and ensembles. No research has been found where the DISC assessment was used, for which this study wants to fill in a research gap.

2.2.4 Group Flow

Another important aspect that is discussed (Sawyer, 2006) is *group flow*. This is based around the concept of Csikszentmihalyi’s (1990) flow theory, but with a significant difference. Sawyer states that “Csikszentmihalyi intended flow to represent a state of consciousness within the individual performer, whereas group flow is a property of the entire group as a collective unit.” and goes on that group flow is a neglected part of the research in this field. In group flow the whole group starts to feel as one unit, everything comes naturally, and some musicians say that when their group enters this ‘flow’ they can synchronously anticipate on the decision one individual is going to make. Gaggioli et al. (2017) performed a research on group flow in music by modelling this phenomenon in a Network Flow model. For this they analyzed the relationship between flow, social presence, structural dynamics, and performance. With this they found that group flow is a significant predictor of the participant’s self-reported performance, but not of the expert-evaluated performance. Additionally, they found that the emergence of optimal group experience and more of a reliance on (positive) non-verbal communication was associated with certain aspects linked with group flow and social presence.

The concept of group flow is somewhat similar to the phenomenon called *transactive memory*, introduced by Wegner (1987). Wegner states in this paper that “The transactive memory system in a group involves the operation of the memory systems of the individuals and the processes of communication that occur within the group. Transactive memory is therefore not traceable to any of the individuals alone, nor can it be found somewhere ‘between’ individuals.” Putting the concepts together you can talk about group flow as an emergent group property. Interaction is important for this and depends on this between the performers. A group can be in a flow while the individuals are not necessarily in a psychological state of flow, and vice versa. This is one of the goals this research attempts to achieve in the creation of its product.

Hypothesis 6: Bands that experience group flow have a better feeling of cohesion and interdependence than bands that do not experience this.

2.2.5 Communication

Wegner (1987) also talks about the group communication (either musically or verbally) being one of the most important aspects in musical performance and improvising, especially in jazz music. And follows this up by wondering why on old photos of important jazz bands you always see the soloist the best on every photo. Cohen (1984) has talked about this interesting group dynamic, which she calls the *status characteristic*. She defines this concept as a “generally agreed upon social ranking in which there are at least two social states”. Sometimes it manifests itself in the more general social distinctions, for example race and gender. These are called *diffuse status characteristics*. The other form is called the *specific status characteristic*. This form manifests itself in differences in ability in the performance of certain tasks. It inserts a believe, or even a prejudice, of superior performance of people with a higher social status. In the research she found that this concept not only directly influences groups for relevant tasks for certain perceived abilities (people with higher grades in math naturally taking the lead in math-based assignments), but there is also an indirect influence of this concept. An example she came across during the research is that of a primary school, where ‘reading’ was perceived as a social status within the students. Even when there was a task where reading ability was irrelevant or not even required, individuals who were known for their reading ability took charge of the assignment in their group, even when they have not shown a tendency to be of the ‘leader’ type outside of school.

Hypothesis 7: *Musicians are (implicitly) aware of status characteristics, but it occurs naturally and does not affect group functionality in a bad way.*

2.3 Hypothesis selection

Thus, seven hypotheses have been formed to help answer RQ1: (How) can a profiling method be designed to help people find a balanced and functional line-up for their band? However, there are not enough resources for this research to test all seven of the defined hypotheses. Therefore, three main hypotheses are chosen out of these seven that are tested in this thesis. These hypotheses are:

Hypothesis 1: *Bands with members that have shared high levels of i) joint enterprise, ii) mutual engagement, and iii) a shared repertoire are expected to be more harmonious than bands who score low on these properties.*

Hypothesis 3: *Bands consisting out of members with good social skills, and teamwork knowledge on average will collaborate better than teams who score lower (on average) on these properties.*

Hypothesis 4: *Personality is important in building a balanced band and the Big five and DISC assessment methods can be used to ingrain that in the line-up of the band.*

These hypotheses have been chosen on their level of executability, but also on their solidity and completeness when looking at the found literature.¹ From now on these will be referred to as hypothesis 1, 2 and 3. The other hypotheses have been regarded as optional for this research. Hypothesis 1 will be divided in three sub-hypotheses (1a, 1b, and 1c), so each concept of a CoP can be regarded on its own. That it was possible to define so many hypotheses, shows the potential of the research field, and this should be picked up on after this research is finished. In the following section the methods are discussed that will help to accept or reject these hypotheses.

¹ I acknowledge the fact that these are empirical hypotheses and the research questions have more of a design science aim, which can be confusing. However, I want to clarify these hypotheses are designed in a way that their acceptance/rejection inform the design choices made in the latter stages of this study. Additionally, these hypotheses will not fully cover the design, focus groups will also add to the design.

3 Methods

This section is about the different methods used to test the hypotheses and thus answer the two research questions. As a reminder, these are the research questions:

- RQ1: (How) can we design a profiling method to help people find a balanced and functional line-up?
- RQ2: Which are the design requirements of a mobile app incorporating the above profiling method?

The methods that are going to be used for these RQs are semi-structured interviews with domain experts, questionnaires, and a focus group.

3.1 Interviews

For the interviews, a semi-structured approach has been chosen. This research is an exploratory research, for which it is the most logical to choose an unstructured or a semi-structured interview. Unstructured interviews are best when the research is fully exploratory, and you have no fixed topics to talk about yet. You just want to hear everything different domain experts have to say to you, so you can 'mix and match' these bits of information for your own exploratory domain. However, in the literature review we have already established some characteristics that we want to research, so an unstructured interview would be unfit for this research. Therefore, a semi-structured interview is chosen. The interview can be somewhat prepared with some questions and topics that are interesting for this research, but it should not be too structured so that the interviewee has the freedom to talk about his experiences with the topics in his domain. This is important as most topics that will be researched and validated through these interviews have not been established in the music world, but in the world of business. Because of this the freedom semi-structured interviews allow, as opposed to structured interviews, is important.

Two experts are interviewed, both of whom work for conservatories in the Netherlands. Their expertise can be used to find out whether the earlier found characteristics stated in the different hypotheses could be found in the world of music as well, and thus help with answering RQ1. When the interviews are done, they will be analyzed. This helps making sure which of the characteristics should be tested in the questionnaires, and which should be left out. The questions will be about the three hypotheses that have been stated in the previous chapter. The questions will not always be literally the same. The same goes for the explanatory parts of the questions. However, their main form revolves around the following:

1. When all members of a group have a common purpose, which binds them together, and have them working together towards the same goal it is called a Joint Enterprise. This is one of the three requirements a group must fulfill for being a Community of Practice (CoP). This is a form of community or working group of which we are researching its relevance in the world of music and bands. What can you tell me about the occurrence of a Joint Enterprise in the bands you have worked with? And how did they perform when compared to bands where this concept did not occur?
2. The next two questions will also tie in with the CoP concept. These questions will elaborate on the other two features that are requirements of a CoP. A CoP functions through its Mutual engagement. These are the interactions that occur within the group, which helps them collaborate towards their goal and makes them one social unit. Important for this is that it's mainly for information exchange and not information extraction, as everybody in the CoP needs to have some form of common basic knowledge. The interactions that come from mutual engagement will help them elaborate on this common basic knowledge. What can you

tell me about the occurrence of Mutual Engagement in the bands you have worked with? And how did they perform when compared to bands where this concept did not occur?

3. The last concept is called Shared repertoire, which amounts to the main output the CoP produces. This word is already used in the music world, but just for clarity sake, it should be a common ground of resource the CoP can produce/perform. Everybody in the CoP should be able to produce/perform this resource at any moment they're asked to. What can you tell me about the occurrence of a Shared repertoire in the bands you have worked with? And how did they perform when compared to bands where this concept did not occur?
4. (What do you think of the relevance of social skills when being a band member?) [optional]
5. When thinking about social skills regarding teamwork, also called teamwork knowledge, we think of concepts like social perceptiveness (understanding non-verbal communication), persuasion, negotiation, instructing, and ably helping others. What do you think about the importance of social skills within the context of bands? Have you seen difference where more band members appeared to be able at these social skills?
6. Building on that, talking about personality in general. For example, the personality trait called conscientiousness, which is an important trait in the context of business psychology. Conscientiousness implies a desire to do a task well, and to take obligations to others seriously, instead of only doing the task as efficiently as possible, not taking others in regard. Is there any relevance for this kind of personality trait or others in the context of a band?
7. And what about tests like DISC, which is an assessment test based around four personality types. Do you think a test like this can help with, for example, helping the formation of a band being as balanced as possible? (talking about the potential influence of more than one people of the same personality type in the band)

These questions tie in with the validation of the hypotheses and are kept as objective and non-steering as possible. This is to not bias the answer of the interviewee towards something that would be favorable for this report. Another thing to keep in mind for the interview being semi-structured is that, when time allows it, it is possible to throw up some other concepts that are derived from the literature as well. These 'reserve' concepts are:

- Task & contextual performance (example from lit rev)
- Synchronous determination, trust, and coherence significance
- Group flow, transactive memory
- Are status characteristics a thing in bands

These can be significant concepts to consider for implementation in the result (the application), but maybe a bit too detailed in comparison to the previously mentioned concepts in the main interview questions. This is no problem if there is time to discuss it with the interviewees, but if there is not enough time, this resource should be focused on the main scope of this research. These 'reserve' concepts can also inspire future work on this framework.

3.2 Questionnaires

Questionnaires are a good way for eliciting quantitative data from a qualitative source; the thoughts and opinions of people. For the questionnaire some students from the schools of the experts that have been interviewed will be asked to participate. The questionnaires are designed as effective as possible, to not be in the way of the class they are following at that moment.

Originally the plan was to include questionnaires in the research methods. The questionnaire would be structured in two phases. In the first phase the students would have been asked their opinions and experiences of the earlier mentioned characteristics that were also discussed in the

interview-section. This would have provided extra validation for the (in)significance of these concepts when collaborating and performing in a band. Furthermore, some questions would have been asked about the design of the application. Students are shown some different designs and are asked if and how much they like that design choice. The questionnaire would be designed in a five-scale likert style.

The second phase would have been an experiment that included a small DISC assessment. The students would be presented with some short questions that are the standard procedure on a DISC-style question list. The students would then be asked to fill in this part as quickly as possible, without thinking too much, as this is beneficial for the validity behind their choices. What answer someone connects with immediately after reading all the answers, is almost always the one that fits that person best in these questionnaires. These questionnaires will be analyzed with a DISC tool, which gives the personality type for every student. With the help of this outcome different balanced bands would have been formed, hypothetically. Lastly the students had to receive the outcomes from this part of the questionnaire, followed by the questions if they have ever been in a band with these people, and if it was a nice experience being in a band with these people. This is where the choice for asking students from a conservatory would have mattered most, as from the second year on most people have been in a band with different people in their class. That way they are the perfect sample for researching this part of the study. However, in the procedure of getting permission to enter a class at the conservatories, the different rectors all shared the opinion that they would not want to submit their students to participating in such psychological tests. Even after providing a consent form and clarifying students could opt out of the process whenever they would have liked it still was not permitted by the rectors. I have chosen to keep this section in the report because I had already designed this method and it could provide inspiration for future work. When someone decides they want to add to this research, they are free to use the idea as proposed above.

3.3 Focus groups

What was possible was to perform focus groups with students of one of the conservatories. Here they were able to discuss their opinion and experiences with the topics originally designed for the questionnaires, but also got to share their opinion about the features that should be included in the design and whether they like the features that are already in the presented mockup. Focus groups can be practical to hear people's direct thoughts after experiments or questionnaires. It helps with gathering some more nuanced thoughts, which brings some extra depth to the somewhat dry scores of the questionnaire. (Goguen & Linde, 1993) Here it is possible to already predict some trends that will be visible when analyzing the questionnaires.

The process is as follows. People attend the focus group after class, a band meeting or another moment when there is time for it. In the session the same concepts will be thrown up that would have been discussed in the questionnaire, but the difference is that in the focus group people can freely speak their mind, in contrast to the static answers on the questionnaire. This is perfect for an exploratory research like this one, because you can hear people's opinions and experiences about the concepts, but, maybe even more important, also their opinion about the possible culmination of these concepts. The exact questions used are provided in section 4.3.1, given these were inspired by the results of the interviews.

4 Results

In this chapter the outcomes of the research methods are discussed. Every method has its own section that discusses the raw results and the analyses derived from these results.

4.1 Interviews

The first interview was done with a director at one of the conservatories in the Netherlands. This specific interview was done first because of the interviewees background. Besides being one of the directors at one of the biggest conservatories of the Netherlands, the interviewee is an academic graduate (philosophy) as well. Furthermore, he has worked with different renowned artists and produces bands in studio work. To have an interviewee with this specific combination of different backgrounds (a thinker, but also has been 'in the high ranks of the battlefield' himself) is great to start off with the interviews, as the other interview could be somewhat adapted towards this interview.

The next interview was done with a teacher and band coach at another conservatory in the Netherlands. This interviewee also has a background as a band leader for pop bands as well as for some tv bands. His experience brings another perspective to the table that complements the experience of the first interviewee well. These two combined give a very nice insight into the world of touring, getting bands together, performing and collaborating with each other, and much more.

The questions were stated as above, sometimes some extra context was given, after which the interviewee started to talk about experiences where these concepts rang a bell, matched or did not match their uses or definitions in the fields of work where they originally were found. In the answers a lot of domain specific knowledge was gathered which has an influence or brings a certain found nuance to the concepts researched in this project. Every hypothesis will get its own subsection. These subsections are filled with quotes from the interview, which have been translated from Dutch. Therefore, paraphrasing is applied in some cases. Between the quote's extra information is given and some early conclusions are drawn. The data gathered from these sessions will be used to help answer RQ1:

RQ1: (How) can we design a profiling method to help people find a balanced and functional line-up?

4.1.1 Hypothesis 1a

Hypothesis 1a: *Bands with members that have shared high levels of a joint enterprise are expected to be more harmonious than bands who score low on these properties.*

A recurring theme was a phenomenon the first interviewee called *embodied knowledge*, information and actions our bodies understand but do not require conscious thought. For example:

"Implicitly the person or band knows that some of the characteristics of a CoP are present when the band is working together and they feel these concepts make the band collaborate and 'feel' better, but they are not going to talk about it out loud."

Which segued into the following quote from the artist Frank Zappa:

"Talking about music is like dancing about architecture".

Frank Zappa said this in an interview to answer a question about his opinion of music critics. It is fairly clear he did not like the concept, but this quote can be abstracted much broader. It is also hard to talk about collaborating on and performing music. Musicians know and feel things, but most of the times

are not capable of describing or explaining these things. However, the first interviewee being a Philosophy graduate made it possible to talk with him about the (mostly) implicit concepts this research is about. The following quotes are of interest for proving the first hypothesis. This quote about the joint enterprise is important to state its significance:

“Sometimes a member of a band can feel that he moves in the same direction the band wants to go, it being its ambition, or it being learning a certain song a certain way, and he can explicitly say so. However, implicitly the whole band feels it is not that way, and when that is picked up by someone from the outside, like the producer, and that person states the problem explicitly, there is going to be some trouble and tension.”

This quote states that a joint enterprise is apparent within the confines of a band of musicians. However, the members do not notice it, and when somebody is not adhering in the joint enterprise the same way as the others it could feel wrong. It feels inexplicably wrong, but wrong, nonetheless. Interestingly, it could be noticeable for someone from the outside. That person could help the band notice that problem, but when there is no such person to help the band, tensions could rise between the one ‘faulty’ member and the rest of the band.

The interviewee went on to talk about another phenomena he notices when he is working with bands and that has to do with two different forms of tasks. The interviewee distinguished between these two tasks by one being ‘convergent’ and the other being ‘divergent’.

“Convergent being that there is a clear goal and these tasks are performed to get towards that certain goal. The tasks he calls divergent are more in the realm of improvisation and finding your way towards discovering what is ‘the unknown’ at that moment.”

This is also something that shows the importance for having a joint enterprise in a band. These tasks have to do with the phase a certain band is in while practicing or recording, for example.

“Every member should have their noses the same way for the certain phase a band is in to go over smoothly, otherwise tensions will rise, and everybody will be working inefficiently and being at cross purposes with each other.”

The second interviewee had something to say about the importance of goals, which is an important part of a joint enterprise. He had the following to say about it.

“A goal is very important in several ways and is clearly visible in good working bands. A tv band has a tv show to work towards and starts to get very efficient when that goal is introduced. At the school you notice that at the start people are just jamming and noodling around instead of practicing. However, when the school organizes a festival for the students to play on, they almost always start to immediately get serious and get to work to give a nice performance. There will be more focus because of that.”

This shows the importance of goals in music bands that want to get anywhere. Without a goal a band can just feel like a group of people who happen to be playing music. When a goal is present, they start moving more like a well-oiled machine, because there is something to work towards that is clear and concise.

These experiences in the form of quotes show it is easier and more effective to work with or within a group that performs creative tasks when a joint enterprise is present. When people get in the same headspace together and have a goal to work towards, the process of collaborating, practicing, and performing will be much more smoother according to the experience of the interviewees.

4.1.2 Hypothesis 1b

Hypothesis 1b: *Bands with members that have shared high levels of mutual engagement are expected to be more harmonious than bands who score low on these properties.*

This hypothesis is about mutual engagement, which (like the other concepts) can seem like jargon to some people. During the interview the manner the questions were stated came to the rescue every time. The concepts were coupled with very clear keywords in the explanation, which spoke more to the imagination of the interviewees than the concept on its own. One of the keywords in the question about mutual engagement was ‘sharing knowledge’ which led the first interviewee to the following thought:

“When you say knowledge it’s interesting, because with music you have to be apt, but also knowledgeable in a way to be able to play something. Knowledge is in your head, to have it is somewhat different then playing music. When playing you don’t have time to find the knowledge in your head, how to play a certain chord. It must happen in real-time. You’re again dealing with embodied knowledge. And some of this knowledge is transferable, but some is very tacit and comes from experience, but you could say...”

This could imply that it is very hard to share knowledge among band members. However, the sentence is unfinished so we cannot know if this is fully implied. Another keyword was “one entity”. This led to a very insightful quote from the first interviewee:

“That concept really reminds of playing on stage with a band, the interaction, one social entity, everything coming together. There is a form of power, of control in that. On stage you have a feeling of control over time and how it’s filled in. It’s very powerful when you have that feeling while being in such a social unified entity (...) everyone being locked in on different levels with each other. Communication, energy, musical bonds within the band, all these things. However, you can’t think about it in the moment, you experience it and notice it, again embodied knowledge. When you can get that feeling being in the entity, it’s one of the reasons why people play music, it’s addictive. And it would not be possible without being that one entity, having that mutual engagement with each other. Again, it is something reflective, it is shareable knowledge, thus it fits in with your definition here, but it is still embodied and not something everyone thinks about, let alone while performing.”

That is a long quote, but it is very important to show that mutual engagement is an important concept of being in a band. People might not notice it, but it can create some of the most powerful feelings of connectedness and pleasure, which apparently is addictive and keeps people wanting to perform and collaborate with that group of people. This seems to have a lot in common with Sawyer’s (2006) findings in what he calls *emergence*. The same goes for the second interviewee, who had a similar experience within one of the bands he played with.

“With that band (a famous Dutch artist from the 90s and 00s) you’d have these moments where you could just close your eyes, play, and you didn’t have to explain each other anything. You just took off together and played within the same energy. You were just locked in with each other. And that’s a

feeling that just goes as fast as it comes, and it's impossible to pinpoint an instigator for it, to recreate it, as it were."

It is acknowledging for this hypothesis that both interviewees gave somewhat the same description of a sort of feeling that can come from a high level of mutual engagement within a band. Also, it could be stated that *emergence* can be of great importance in forming a mutual engagement. Additionally, the second interviewee also had another insight from his experience as a band coach where mutual engagement was regrettably missing.

"In the first year at this school students will be randomly mixed together to form a band. We just get a list of all the different instruments and people playing them and start mixing them together. Then it's up to them to find what they think is their perfect line-up by jamming and remixing band members with each other. Sometimes you get these exciting bands with different people. That is so uplifting and inspiring to experience. A perfect demonstration that they're more than the sum of their parts. However, then you notice that they will only come together once and the next time they have shuffled themselves with other bands. They end up on another band that they think suits them better, and ends up sounding cool, just not as cool as it could have been. That is a pity and I never knew where it comes from, maybe different expectations or something. I have a feeling this maybe has something to do with your concept here."

This is an interesting story as it shows what happens when something happens that is exciting for someone outside of the group, but when something, that resembles a mutual engagement, is lacking. What follows is the group disbanding and looking for new people to play with after one or two sessions just because, presumably, the lack of this concept. Like stated above, musicians look for that certain, indescribable feeling when they're playing in a band, and when it is not there, they tend to look elsewhere for it.

Another concept that was used to clarify mutual engagement is the 'sense of a goal'. Interestingly, this has also been mentioned in the first question, which is where the second interviewee gave his insight. The first interviewee, however, shared his experience with this concept in the answer to the second question.

"In an abstract sense that is performing the kind of concert I was talking about earlier, which is what you sell, what you start with and can reflect upon after the fact. That reflection is not what you're doing while performing. And what makes that big performance that big performance is totally dependent on some unpredictable factors. The concrete manifestation of it forms itself during the concert. Repeating what has been done one night to recreate that feeling will almost always fail. It is something immeasurable, which is very interesting about music, in a broad way as well."

After this the interviewee went on to make a comparison with sport, because of an earlier research he was collaborating on. After this he returned to the goal aspect of mutual engagement:

"With sport you can easily tell when you are performing better: do you run the 100 meters in nine or ten seconds? A fantastic performance in the studio for example is another story. That one vocal take could be fantastic, but what makes it that way. Everyone's taste is different, it's subjective, but that is an argument killer, and we, researchers, do not like those. The, what I like to call, intrinsic quality of the vocal take, where we say 'this is a good one, that one is not' does not work in music. We should look at the extrinsic quality of it, add context, put it in the rest of the music, to the outside world if you will. Then you add value and meaning to it, and it gets somewhat measurable. That is something musicians should be wanting to do, that should be the goal. Thus, there is a goal, which gets its meaning within the context of the music. That is something a band is busy with. Members should be in the same line on that at every moment in the studio, when they do not you get unwanted clashes."

They could agree on the verbal communication aspect of it, but non-verbally something will still clash. And that is where I, as a producer, must step in, talk to the members about it. However, mind you, never in the same way I am talking about it to you right now.

Here we find some serendipity, about the immeasurability of music, which is outside of the scope of this research, but still is interesting. Mostly because it tails back to the concept of the importance of having a mutual engagement, in the form of a goal.

These experiences give a great argument for why mutual engagement is an important quality of an effective and well-oiled band. It enhances the bond between members, and it makes sure everyone stays creatively on the same wavelength with each other. Lastly, it is a way to keep (non-productive) conflicts out of the band.

4.1.3 Hypothesis 1c

Hypothesis 1c: *Bands with members that have shared high levels of a shared repertoire are expected to be more harmonious than bands who score low on these properties.*

This hypothesis has the danger of the word ‘repertoire’ already being in the repertoire of the musical jargon, so to say. However, the interviewees understood that the question for this hypothesis was also meaning something more than just a repertoire in songs. The first connection the first interviewee laid with shared repertoire was something you would normally find in the perspective of sociology and it has to do with networks and so-called ‘scenes’:

“In the Netherlands you have some different scenes, not a lot, think 30 to 50, consisting out of people who loosely know each other. Networks that are not quite closed, something that is not really ideal, now that I think about it. However, when you take a good look at them you see that per scene that people know somewhat around 30 other people in that scene. And when there is a wedding or a pub that wants a band to play, there are always some people in the scene who have a hand in acquisition. They phone around, and come together, hopefully, on the same spot at the same time. And those people have a shared repertoire. Naturally, in the songs, literally speaking, they all know good enough to play them after one rehearsal. However, you also see a shared repertoire in the way of playing, the level of thinking, maybe improvisation wise. And that’s very interesting. You also see this in for example different conservatories. Rotterdam puts more time in the craft, actions rather than words. Amsterdam puts more time in image, putting yourself out there, and other floatier stuff. You see that reflected in the conservatories from their respective cities.

Here we see that shared repertoire is present within musical groups, and the meaning of the word does not stop at its usage within the jargon. Furthermore, we see the concept of a Community of Practice appear literally in the form of musical scenes. This has manifested itself out of a network of some dozen musicians who have a joint enterprise, a mutual engagement, and a shared repertoire with each other. Another thing that can be gained from this information could be the inherent accessibility of playing in a band with people within the vicinity, which should be an important feature of the application. Additionally, the second interviewee also gave some insight in this phenomenon.

“In the time I graduated Rotterdam conservatory graduates mostly ended up being session musicians and playing for artists, while in Amsterdam it was more likely for new bands to come up. This has gone on for some time now, but lately I found some people also find joy in mingling with the other scenes. This is nice to see, as this mental state has brought up several interesting bands that draw

from their own scenes and combine them. Also, again, some interesting styles or genres come out of it. People will mix the genres that are popular in their scene together, and when that gets combined you get some interesting, new kinds of music that would maybe not even exist weren't it for people mingling with people from out of their comfort zone, out of their own scene. When you are open minded about these kinds of things happening, interesting new music can start to also exist within it."

Naturally, it is nice that people would live relatively close to each other when committing to such a group, but there is a lot of added value to be gained from mixing people that have an instilled cultural inheritance of the city and neighborhood they live. When this can be done it is another step towards building a platform that can create fun, but also effective bands.

With these experiences we have seen that it is hard to think about something else when the usage of a word already implies so much in the topic that is talked about. However, the insight in different scenes throughout the country, which can be seen as its own form of CoP gives a relevant argument for a shared repertoire being present in many ways in the world of musical collaboration. It being in the form of a tool, or a form of communication.

4.1.4 Hypothesis 2

Hypothesis 2: *Bands consisting out of members with good social skills, and teamwork knowledge on average will collaborate better than teams who score lower (on average) on these properties.*

There was already some mention of parts of this hypothesis in the answer to previous questions. Thus, some quotes that are featured here are drawn from answers that were on the earlier hypotheses. Additionally, this led to a chance for more anecdotes to be told. These anecdotes will not be quoted literally however, but there is some information in them that is useful for this hypothesis. For clarification, here again some keywords were used in the explanation. For reference these can be found in the *methods* section. The first quote is about one of these keywords, *social perceptiveness*:

"Non-verbal communication is something we've already talked about of course, the signs the band leader does on his back to communicate choices with the band. However, it's not only that, it could also be your position on the stage"

The comprehension and adhering of these 'signs' would be a perfect example of someone needing to have a good social perceptiveness. The second part is elaborated upon in the next anecdote from the first interviewee:

"In the band I was playing there would be these 'feature moments', a moment where someone could play a solo. My band leader at the time was always busy with the positional formation of the band in these moments, always busy getting the full attention of the audience to the soloist. He did this with the help of some other non-verbal tricks; like his posture; in which and what way he looked; how he steered the audience was constantly a point of attention for him."

This is the perfect example of a band leader who is persuading and negotiating with his audience for their attention and where they should pay their attention. In fact, this band leader possessed every facet mentioned in the explanation of teamwork knowledge, as explained in this question. This could be one of the factors why this person was as successful as he was in the time. However, this anecdote has not ended yet:

"However, sometimes he would get off the stage. To get something to drink, or something else. And then that connection would cease to exist. While the soloist was still playing at his best and it still

sounded as great, it didn't work as well without the band leader controlling and steering the attention of the audience. People who got that would go on and try a way for themselves to keep the attention at these moments. However, the band members who did not, got mad and reflected their anger to other members and got kicked out."

This is an example of teamwork knowledge being important in the long run of being a band member. When this is missing, and you already do not really fit in with the group, personality wise, there is a high chance the band leader or band members will dismiss you. This is elaborated upon in the answer to the previous hypothesis:

"That certain level of skill doesn't really matter in the long run. At the moment I was picked to be in that band I was not really picked for my technical level, because that was sub-par for this band at the time, but for my interests, playing style and some other things. After a lot of practice in the first year, I noticed I got over that certain threshold of technicality. And then other things start to seem more important than getting even better at my instrument. When you are touring internationally you are away from home for at least four weeks. You're in a foreign country, talking to no one but your members, and communication with other people tends to be a bit funny. They want something from you, either the label that wants something, or they are fans. And fans will almost worship you, which is weird, because I'm only a guy from a simple house in a small neighborhood in the Netherlands. You need to be able to keep in check with yourself in these moments, you need to keep perspective. That worship is a game, you should not start to believe in it too much, although you must take it seriously, because for them it's the truth. But for yourself you need to be able to switch between modes. The same hold for the business side of things. You get numb during these periods."

This is a long quote, but essential to the understanding of the importance of teamwork knowledge in such a creative group. Here we also can see a good example of Hartley's *interpersonal underworld of emotional attachments* (2006), which he found in his research of group communication. To give it more significance this anecdote gets finished with the following:

"The musicians I met and played with that were very good at keeping perspective and switching between these modes, while still being a good 'team member', were the most successful ones. The ones I kept meeting at other tours and in other bands. The people who did not, disappeared from my life. I cherished that knowledge all the time in that part of my life, because it is that important in collaborating and performing with people."

The second interviewee had two important traits to add to this list of teamwork knowledge: composure and flexibility.

"When working with a band, especially as a band leader, it is important to stay as composed as possible. When you radiate composure, it will wear off on your bandmates and this will keep everyone in form, especially on tour. Most of the times you are dealing with people who know how to handle their instrument and their place in the band and its music. Composure adds a level of calmness that will help people getting in each other's hair. Additionally, there is flexibility, which inherently compliments composure. When people are being stubborn, the chance to lose composure is much higher. Furthermore, it adds some of the things we have already talked about like being open to new experiences, creating more interesting music or performances."

This is a good explanation for why these traits could be added to the literature that has been found in this research. It could maybe even replace some of the traits found in the literature when applying them to the music world, as these were never mentioned or only touched upon in a single sentence as they went on with their answers.

With these experiences it has been found that teamwork knowledge and its main personality traits are almost imperative when one wants to survive working or just stick around in a band. We have seen that tensions can rise when someone does not possess some of these traits up to a certain level. Additionally, two personality traits, composure and flexibility, could be added to the important personality traits for good teamwork knowledge in a musical group.

4.1.5 Hypothesis 3

Hypothesis 3: *Personality is important in building a balanced band and the Big five and DISC assessment methods can be used to ingrain that in the line-up of the band.*

This hypothesis was spread out over two different questions. One about the conscientiousness trait from the Big five, and one about the DISC assessment tests. A reason for this is to look which way this research could go with the conscientiousness trait. As it is fairly similar to the C in DISC, we could treat it equally to the other traits represented by the D, I, and S. However, if some important information would come up about this trait in the context of a music band, it could be appropriate to give this trait some more focus. Just like the extra focus that is already given to the D trait, it being an important factor in forming balanced versus imbalanced groups. The first interviewee had the following to say about it:

“What strikes me, which is interesting, is that this has got a negative bias: “scores low”. Conscientious people are good people to have around, but there is some bias. Because in music, being unrestrained could actually be a good thing. However, there should be someone around to keep the unrestrained from derailing. That combination is where creativity lies. The border between chaos and derailment is where the magic happens. But when there’s too much order, which could be a potential danger when there are too many conscientious people in a band, there will not be as much creativity. Thus, it is a significant trait in creativity, but I find it funny that there is such a value judgement for it from the business world.”

Several important things can be extracted from this quote. The first is obvious: in the explanations of the different traits in the application it is imperative to avoid any bias in these. Misunderstanding is something dangerous and could play wrongly with people’s perception. Another one is that conscientiousness can play an important role in the creativity of the band. Conscientious people can guard against complete derailment and keep the band in the “chaos where creativity lies”. However, conscientiousness can apparently also play a big role in the stability of the band. If there is too much order and stability, there is a *chance* it could be detrimental for the creativity of the band and obstruct the band’s output. This shows that conscientiousness could be treated the same as the dominant type in DISC, being influential in the (creative) balance of a band.

The first interviewee also gave some interesting new insight when asked about his experiences with bands and holding them to the DISC assessment. He thinks that there are two different types of dominant people when looking at the DISC assessment applied in the music world:

“What we were just talking about, that musical creativity, chaos without derailment, I think ultimate (social) harmony is not something aim to strive for within a band or while forming a band. What is noticeable sometimes within bands is that there are two dominant people, but in a different way, and thus they complement each other. The band is not harmonious with them, but what they are is more creatively stable. What I tend to see is that there are the ‘people with a voice in a band’, but they are reflective. They think a lot about what the band should and should not do and bring that message to the rest of the band. The other form of these people tends to be that way, but more from gut feeling, instinct so to say. And when they find a way to collaborate, you will have a best of both worlds kind of situation. They could be two very dominant people, a reflective and an intuitive one, but they need each other, because that tension can manifest itself in a good form of chaos which could lead to a well of creativity.”

The second interviewee doubled down on this with his own thoughts on the appliance of the DISC assessment in the music world. The interesting thing is that when the question was asked, his first instinct was also to talk about examples of successful bands he was in that had an ‘imbalance’.

“In the band with that artist [anonymized for privacy] the bassist and drummer both were very dominant, they were clearly the D in this. But they had their own modes in it, maybe it was mixed with some other letter when looking at this, but different for both. It also worked because there were two people in that band that were mainly C’s, combined with an S or I. So that balanced itself out in some ways. Talking about balance. In music that’s another thing in itself, regardless of how it is seen elsewhere. Balance is nice and all, but is maybe a bit boring, dull. Tension out of imbalance can create wonderful things, look at the Police. Those guys never had a moment of serenity, I think. Thus, when you are talking about ‘ideal’ there can, and maybe should be tension as far as I’m concerned. Mind you, when talking about creative bands. When I’m working with orchestra’s or musicals, the presence of balance in the personalities of the members is a gift for band leaders. Tension at such a big scale will end up in trouble, tension at the scale of 5 musicians in a band mostly fixes itself rather quickly and ends up in friendly hugs afterwards.”

After learning about these experiences, we can conclude that the DISC system could be viable to create well working bands, maybe even balanced bands. However, the most significant thing that has been found is that what is called ‘imbalanced’ and deemed negative in the business world, will not necessarily be deemed negative in the world of music. Additionally, we have found that the conscientiousness trait and the C from DISC were regarded the same by both interviewees, and thusly will be treated the same from now on in this research. The C has been found to be an important counterbalance when the creative combination of a *reflective* and an *intuitive* D is present in a band. Interestingly, in this domain an unbalanced group would rather be a group of too many C(onscientious) people, as this could be detrimental to the creativity of the band.

4.1.6 Serendipity

When interviewing people who have gained so many experiences in what they do, chance is they will share some useful information that is not particularly suited for one of the hypotheses. However, these pieces of information can still be of great value for this or future research. Here is an example of something that came up to the first interviewee at the end of answering the last question:

“The embodiment we were talking about earlier is also apparent in the instrument a certain musician plays in the band. There are certain archetypes which are constantly coming up when observing different bands.”

This is something beyond the scope of this research, but it is an interesting thing to learn more about. As it is quite apparent in some bands when just performing the ‘eye test’. At the end of the same question We also explained a bit more what was the ‘end goal’ of this report and this also brought up some interesting insights of performing this kind of multidisciplinary research and wanting to merge different kinds of worlds.

“At this school we were once contacted by an electronic music label, they got a lot of demo’s sent to them by people who want their music released by them, but they found it really hard to get through this endless pile of music. In short, they wanted us to make some form of algorithm, trained by the hit charts, that could pick out ten from the hundreds of demos they got that were worth a listen to. And then they could choose in an easier way whom to sign. In the end we refused. This kind of technology will of course have a bias, that will send every variable in a particular way. And not that this would get that big, but everything that is natural to humans and people want to recreate and simplify by making an algorithm tends to not end that well. When applied to something creative, it will kill everything about it that is creative. And not that I’m trying to say that you should not design this app, but you should be aware of these ethical and social implications that come with it. Be reflective about them. Your app could make people end up in a what we could call ‘balanced band’, but maybe one of these dominant people would otherwise end up in a band full of dominant people and make the most brilliant new music, out of that unbalanced chaos. Still it’s an interesting and ambitious subject to research, when you can keep an eye out for the nuances and the greys in it. Then you will be a whole step further.”

One important factor that should not be disregarded is that people tend to like playing with people that play the same genre. The second interviewee had an example to share answering the second question.

“You always have, what we call, the disaster band. That is a band where the members really cannot get to play together. They have different opinions on so many things that it will just never work. The most occurring problem, however, is that one or two members only want to play their favorite genre and really give the others a bad time when it is not the one that will be played. Most of the times we just force a remix or add some members of that band to another band.”

This shows an important design choice that should be made. People should be given the option to tell their preferred genre when making their profile. Another thing to think about is when this option is added, whether it should be mandatory or optional. This is a perfect question to ask the potential stakeholders when performing the focus group.

4.1.7 Interview conclusion

The interviews have been performed with two interviewees from a different background. The first one is mainly a principal at a conservatory now but is also a graduate in philosophy and has been a member of several important Dutch bands. The second interviewee is and has been a band leader in bands and orchestras for, among others, different tv shows and events and also is a teacher and band coach at one of the conservatories in the Netherlands. It was hard to come by relevant people that wanted to cooperate with the research, maybe because it is rooted in a world outside of the music world they are used to. However, the people that wanted to collaborate are very diverse and

their backgrounds are complementary to each other in such a way that it provided a lot of information and insight for this research. Again, this will be used to find the answer to RQ1.

RQ1: (How) can we design a profiling method to help people find a balanced and functional line-up?

4.2 Questionnaires

The questionnaire was set up and can be found in the appendices, but it has been decided not to include it in the results. As explained in section 3.2, it was not possible within the resources and scope of this research to find enough people to get a significant result out of the designed questionnaires. This omits the only quantitative part of this research, but it is better for the validity of this research not to include it.

4.3 Focus groups

The resources that were at hand were perfect for doing a focus group. However, the original plan for the focus group/experiment had to be altered because of the problems stated in section 3.2. In the end, the focus group became the place where some questions of the questionnaire were asked, albeit somewhat paraphrased to make them more open. This would suit the conversational style of a focus group more. Seven focus groups have been performed with a total of 31 people participating. Some early versions of the mockups featured in section 5.4 had been made beforehand. These were built only to provide some visualization for the participants to complement the questions asked. None of the final design questions had been regarded for these mockups

4.3.1 The questions

The questions asked in the focus groups are stated in this section. With the new questions some space has been created to consider the findings (section 2.2.2) in the report by Pulman(2014). Every question has their explanation and justification for them being asked stated as well.

1. *What college year are you in now?*

This is an important leadup to the next question, as the answer to this question can give insight in where the student is in their journey of finding a band that suits them. Especially first year students can still be searching to their perfect line-up, but also second or even third year students can still be in the process of tweaking what they want.

2. *How did the initial process of forming the original work bands work out for you?*

The second interviewee shared some information about their way of putting a band together of people who do not yet know each other. *“Basically, we throw different students together in a room, let them jam, and figure each other out. After that they will sometimes stick together or go look for another group of people. Most of the times that is based on personalities complimenting each other or not, but genre can be an important factor as well.”* This question is based on that quote. What the teachers are doing is letting their student experiment with each other until they find the people they like to be in a band with. For some people this could work well, for others it might not. The answers will provide some foresight in the answer to a future question, question 5, which tries to find the need for the system that will be designed as a result of this research project. These first two questions also help in setting the stage and

letting the students know that there is genuine interest in them and their experiences. That makes it easier to get useful answers to the following questions.

3. *What do you think were the most important factors in formations being successful (ending up staying together) or not?*

The goal of this question is to let people tell their most important reasons why they stayed in a band with certain people or not. This provides insight in the instigators that make people choose whether a certain line-up is worth their time. The answers to this will revolve around things like genre and personality, which helps to show the importance of these concepts. Especially when reasons are given that have to do with personality, it would help to verify hypothesis 3 and add more validity to the research as there are more sources used to verify it.

4. *Would you recommend or use an app like the one I'm designing?*

This question is a simple way to find the need for this system. People will at this moment already have told some stories about their own journey into finding the band they ended up staying with. And this question will drive home whether people have a need or know people who would have a need for such an application. This can be a tricky question to ask to these certain people as they are provided with enough like-minded spirits to have an easier time finding the right people for them in comparison to the 'hobby musician', who is also a stakeholder for this application. However, most people will realize that and therefore this question can still validly be asked to this certain group of people.

5. *What is your opinion on a 'vicinity feature'?*

People are asked whether they like the vicinity options that are shown in the early mockups. This will let users choose the maximum ratio of distance, measured from their address, they would like to meet people to form a band with. Before the start of the focus groups the mockups feature a more regional choice of ratios: 1, 2, 5, 10, and 20 kilometers. This question tries to find out whether these ratios are enough, if people would not mind finding people further than that or finding people closer than the given minimum. It could also be that they do not like the current implementation of this feature and come up with a new idea for it.

6. *What should be its range?*

This is the second auxiliary question in case the students do not speak about their range choice preference in their answer to question 5. This choice is potentially important enough to make sure that you have heard enough opinions about how to fill in the implementation of this feature.

7. *What is your opinion on the option to tell the app for what kind of band you're looking (covers, original work, etc.)?*

This question/feature was instigated when discussing potential features with a conservatory graduate, while not explicitly performing research for this project. He thought it is important to have as many obstacles cleared as possible before meeting new bandmates. That way you diminish the chance of people not really finding what they were looking for. In contrast to letting people communicate about this while meeting for the first time. This question will gauge how other music students think about that. This will help find out whether this option should be included, and whether it should be optional or mandatory.

8. *What options would you like to see here?*

The obvious answers to this are cover bands and original work bands, but maybe people come up with something other they would like to see featured in an app like this.

9. *What is your opinion on the DISC profiling system as-is?*

As this is the heart and soul of this system, it is necessary to find out if people like the method used, or at least do not object against it. People could be hesitant to fill in a personality assessment. They could be afraid to find out something about themselves they do not like, they could have privacy concerns, etc. This is the part in the focus group where it is possible to gather information about the general consensus of the stakeholders about the way this system does what it does. It is a way for them to brainstorm about this concept, but also about how to handle this the best possible way, which can help the system perform at the best possible way.

10. *What is your opinion on the feedback loop that will instigate once you have met some people from your band already?*

In an adaptive interactive system, the system should learn from its own mistakes, as well as what it has done in a right way. A proven way for implementing this is providing feedback to the system, in this case about the people you have met and whether you would like to play music with them again. This question will gauge how people stand towards this. They are informed that this will happen anonymously. Furthermore, this could trigger them to give their opinions about how they like to see this implemented, if they want to see it implemented at all.

11. *What is your opinion on the option to have the choice to tell the system your ambitions for a band?*

This feature was thought up in the same meeting with the conservatory graduate from question 7. This potential feature helps, like the one in question 7, clear another obstacle which could come up after a lot of time playing with some people. Someone might want to form a band to occasionally play and from time to time perform a concert with, but someone else might want to practice every week with the band while trying to perform at least every month. This could come up in the first meeting but might also never be spoken about until the two members find out about each other's opinions and tensions are starting to rise. This is something we thought should be solved even before the people meet, but there might be people who do not think this is necessary. With this question people can speak their minds about whether they would like to see such a feature, or whether they think it would only clog up the set-up of someone's profile.

12. *Which of the options should be optional and which of the options should be mandatory to fill in?*

This is an auxiliary question for when one of the features that have been discussed missed the part in the discussion where people talk about whether a feature should be optional or mandatory to use. Some features should be mandatory for the system to work well, but others could be a feature only certain people might use without the system having a problem with it. In this part of the focus group people can recall and evaluate their opinions about certain features and how they would like to see them implemented. Before moving on to the last question of the focus group.

13. *Do you have any suggestions on features the app needs to have furthermore?*

This is a simple but important question to end the focus group with. People have heard what most likely will be in the application, they have stated their opinions about it and thought about potential implementations. It is likely that something new could have come to mind after thinking and talking about all this. Maybe one of the questions gave them inspiration for a new feature, and it is one of the goals of this focus group to find out things that have not come to mind yet. All this together makes this a question that is mandatory to ask.

This way the focus groups questions were divided in two parts. The first part was to gather more experiences on what brings a band together, and what keeps it together (questions 1-3). This was important to add validity to the acceptance or rejection of the hypotheses, as there are more experiences and opinions gathered. The second part was focused on requirements elicitation (questions 4-13). This part helps answering the second RQ, but also with building the design framework for the system.

4.3.2 The findings

Below, table 1 can be found with the raw findings and answers to the question from the students that participated in the focus group. 53 people were able to answer question 4. This is a quick question and helps gauging the need and interest for a system that will be built using this research. Thus, we made sure to ask this to as many people as possible. 31 people were able to participate in the full focus group. When relevant, there is a number in the last column (Times mentioned) which represents the frequency a (generalized) answer has been given. Sometimes there could also be a supporting description in text that describes the general feeling people have. When a whole focus group team gave a certain answer, and this was repeated (mostly paraphrased) by other groups an 'x' is noted. This is because an explicit count of individuals has not been performed in that case for the whole group of people agreed with that statement

Question	Answer (paraphrased and generalized)	Times mentioned
<i>What college year are you in now?</i>	<ul style="list-style-type: none"> • 1st year • 2nd year • 3rd year • 4th year 	<ul style="list-style-type: none"> • 8 • 6 • 8 • 9
<i>How did the initial process of forming original work bands work out for you?</i>	<ul style="list-style-type: none"> • “Really well, we just went jamming and the same day we had a band” • “Pretty well, after the second session I was in a pretty solid band” • “Not well, I didn’t really get going with people, and switched a lot before finding my ideal group” 	<ul style="list-style-type: none"> • 14 • 10 • 3
<i>What do you think were the most important factors in formations being successful or not?</i>	<ul style="list-style-type: none"> • “Preference of genre” • “Personalities gelling well” • “Both personalities and genre” • “Flexibility, an open mind, and wanting to experiment” 	<ul style="list-style-type: none"> • 7 • 8 • 12 • 3
<i>Would you recommend or use the app like the one I’m designing?</i>	<ul style="list-style-type: none"> • “Yes of course, it’s a great idea” • “Yes, I will not use it myself probably, but I would recommend it” • “No, I don’t like the system grouping people based on personalities” 	<ul style="list-style-type: none"> • 45 • 4 • 4

<p><i>What is your opinion on the vicinity feature?</i></p>	<ul style="list-style-type: none"> • “It’s only natural that it is included” • “Yeah that should be the main thing of the system, shouldn’t it?” 	
<p><i>What should be its range?</i></p>	<ul style="list-style-type: none"> • “I would like the standard values of 1, 5, 10, 20, 50, 100 kms” • “Maybe you should use descriptions of range like <i>local, regional, provincial, national, etc.</i>” • “You’d like people to not have any hassle, so I would just keep it short ranged” • “Is your location mobile or stationary?” 	<p>Not counted explicitly, but mentioned in order of frequency</p>
<p><i>What is your opinion on the option to tell the app for what kind of band you’re looking for?</i></p>	<ul style="list-style-type: none"> • “It’s a handy feature when keeping in mind that the app should clear as many obstacles as possible before the first meeting. So that meeting can be as efficient as possible” • “It should even be required filling that in to finish your profile” 	<p>Generally positive</p> <ul style="list-style-type: none"> • x • 12
<p><i>What options would you like to see here?</i></p>	<ul style="list-style-type: none"> • “Cover bands and original bands seem to be enough for your research, to me at least” • “Maybe include more options than only ‘covers’ and ‘originals’ band. Maybe include an option for just one jam session, or build features so that producers can use it and look for bands” 	
<p><i>What is your opinion on the DISC profiling system as-is?</i></p>	<ul style="list-style-type: none"> • “As long as it will be anonymous, I think it can’t hurt” • “It could work, but at the start you will get a lot of ‘balanced’ bands of course” • “I think in something creative, like music, two dominant people could end up well together, so I hope the system learns that” • “I think it should not be too heavily reliant on personality only, as genre and skill level can also influence people gelling together” 	
<p><i>What is your opinion on the feedback loop that will instigate once you have met some people from your band already?</i></p>	<ul style="list-style-type: none"> • “Again, as long as it is anonymous and it helps the system putting the right people together, I will have no problem with it” • “I like the idea, but maybe it is not realistic to let people do that after only one meeting. Maybe let people choose when they will give feedback” • “As long as there won’t be ‘dropped a lot of shade’ at each other, I think it could be handy” 	
<p><i>What is your opinion on having the choice to tell the system your ambitions for a band?</i></p>	<ul style="list-style-type: none"> • “That one is really important, as that is where I’ve seen most bands fall apart. There should be an immediate understanding between the members as to where they want the band to go” 	<ul style="list-style-type: none"> • x • 5

	<ul style="list-style-type: none"> • “Yeah I would like that really much, but I would build in that you can give a separate estimate for the amount of rehearsals and the number of concerts you’d like to do in a certain time with the band” 	
<i>Which of the options should be optional and which should be mandatory to fill in?</i>	<ul style="list-style-type: none"> • “Vicinity should be required to fill in” • “The kind of band and ambition should both be mandatory” • “For the profiling part to go as fast as possible it should be possible to let the last ones [kind of band, and ambition] be optional and be filled in later. And only put those people together who have not filled in anything there” 	
<i>Do you have any suggestions on features the app needs to have furthermore?</i>	<ul style="list-style-type: none"> • “When a group is formed the possibility to enter a chat group with each other would be nice” • “When the group is made a date picker should be made possible to filled in within the app, and to then be able to export it in the phone calendar would be nice” • “Have the app suggest a spot to jam that is at the most central point between all the members of the potential band. Maybe even let the band decide if they immediately want to meet at a jam spot or want to have a drink with each other first. And then let the app find that spot for them to meet.” • “I think there should be an opt-out button so that if someone doesn’t feel at its place in a band, but the other members do, that person can be replaced by the system” 	

Table 1: Raw results focus groups

4.3.3 Focus group conclusions

In this section some early conclusions are stated. Generally, it sets out significant findings from the focus group in the form of a paragraph per question. This helps getting an overview of the results from the focus group sessions.

4.3.3.1 Question 1: College years

The first question was straightforward and its main function, like stated earlier, was mainly demographical. The information it gives is that it shows the distribution of where the participators were in their stage of their study. It also provided us with information on how to handle the next set of questions, as some people will have their experiences with getting a band together at school a lot fresher in their minds than others. Here we see that we have an even distributed number of people per year that participated in the focus group, which provides a well-proportioned balance for all the questions.

4.3.3.2 Question 2: Ways of forming bands at school

Question 2 gives insight in the natural course of finding a band when people from a pool of 30-40 musicians are mixed up together at random. Here we see that most participators found a band quickly,

but there could have been some bias involved in this. Two groups of five that participated and gave that answer, consisted out of that certain band they immediately clicked with and were first- and second-year students. This is not strange as the day of the focus group was the day these bands got together to work on their repertoire.

The other groups that participated and already sat in a group are either friends and/or classmates, and no bandmates. On the other side we find almost the same amount of people that needed more than one session (of circa four hours) to find a situation they could see themselves in for a longer time, some finding it in the next session, some took more than those two sessions.

This shows that even when people are put in a relative ideal situation, by being surrounded by and mixed and matched with fellow musicians who are around the same age, there is still a slight below 50% chance you will not find your ideal band in a reasonable timeframe. This, again, shows the need for a system like the one proposed in this research.

4.3.3.3 Question 3: Factors of successfulness

Question 3 is trying to find out if people would state *personality* as the reason a band could not stay together, without the knowledge of the details of this research. This was the last question of the first part of the focus group, which is about learning the needs for a system such as ours. Only after this question the details about profiling and the potential of the DISC assessment in this would be mentioned.

Here we find that personality was indeed named, as well as genre. In the end one seems as important as the other, so it could be handy to keep that information in mind and potentially add a 'preference of genre(s)' feature in the profiling. The most important information the answers to this question give, is that personality is an important part of being in a band that gets together well and potentially could be successful in some way.

What is also interesting is that some people stated that their bands stayed together or fell apart because (a lack of) the flexibility of certain band members. Even though the genres or personalities did not match, they did their best to adapt to the situation, and found out the band felt and sounded great with that line up. This ties in perfectly with one of the additions to the personality traits associated with teamwork knowledge that was suggested by the second interviewee, *flexibility*. What is also interesting to keep in mind is that people that score high for the I in DISC tend to be flexible, as these people do not like other people arguing in their group and try to prevent that by adding flexibility to the mix.

4.3.3.4 Question 4: Recommendation of the app

Question 4 has the goal of finding the explicit need for this system. When someone was only available for one question this question was asked. These results are clear, and we find that the majority sees the emergence of this system like something that would add value.

4.3.3.5 Question 5: Vicinity feature

Question 5 was about finding out what people thought about the vicinity feature in general, and if they also thought it should be one of the general points on which a band is formed. The answers to this were often simple and stated a resounding 'yes'. People thought it was the most logical thing to include they could think of and the app should have this feature from the start.

4.3.3.6 Question 6: Range of vicinity feature

Question 6 was about the range people think the vicinity feature should encompass. Some examples were given of different ranges, varying from short detailed ranges to long general ranges. The outcome is very useful as some answers were given with more frequency than others. To only implement a short range, like some people stated, would not be a very versatile idea. Yes, it will be easier for people to meet up if they live together, and only allow those people to meet each other. However, it could be

that way in the Netherlands, looking at its high density of inhabitants, but it will be a lot less effective in bigger countries (USA, i.e.), or countries with a lower density of inhabitants (like Sweden). Furthermore, only allowing the vicinity to be in the lower distances will hinder creative freedom. It has already been stated earlier in this chapter (in a statement made by the first interviewee) that technology of this kind should hinder human, creative freedom as less as possible. When it is not possible to set your ratio as high as you want, the system will cancel out a lot of human connections that could potentially have been made by it.

Another idea that has been stated a few times, however, could be a great alternative to static numbers and that is giving people the option to choose descriptions of distance instead of numbers. When users can choose between *local*, *provincial*, *regional*, etc. it could give them a more flexible overview of the maximum distance they allow the system to seek out people for them. It is a less clear option than using absolute numbers, but it is an option to consider giving to the users. When it is implemented though, it should be adaptive per country, as the interpretation of words like 'regional' and 'local' differ heavily between countries.

4.3.3.7 Question 7: Band preference feature

Question 7 was about finding out whether participants agreed with one of the ideas that sprouted from an informal brainstorm session with a graduate from their school. People agreed that it would be a smart feature to include when keeping in mind that you want to have as many obstacles cleared before the first meeting. This will also help the effectivity and efficiency when using the system. Additionally, twelve people explicitly stated that they would like this to be mandatory, before arriving at question 12, which asks people which option they think should be mandatory to fill in when making your profile.

4.3.3.8 Question 8: Options for band preference

Question 8 was an auxiliary question and not asked when it was already answered in the previous question. Most people said that only cover and original bands would cover enough ground initially. However some people stated that it might be a good idea to expand the application for the usage of a single jam session, which it actually can already be used for when you decide not to move on with the people you have met. Other people stated that it could also be handy to have a single option in or version for the app for producers to use it. That way producers can find bands that fit in their style and way of thinking. However, it could be a whole new research in itself to find out about the dynamics between a band and a producer in the studio and how that can be exploited and used in the most optimal way. Thus, for the moment this idea is outside the scope of this research.

4.3.3.9 Question 9: DISC profiling opinion

Question 9 was the part where everything started to get together for the participants. At this moment they were asked what their opinion is on the method this system uses to get its information, the DISC assessment. First people were afraid that their letter would be mentioned in their profile, this is not the case, as this could lead to a bias for what to expect from certain persons, which can lead to faulty, premature prejudices. This is something that needs to be avoided and thus only the profile owner can opt in to see their own DISC score. Most of the people found it an interesting way to get groups together and can see it work properly when implemented. Some people were somewhat critical of the starting phase, which is a logical thought as the system has not been trained yet and it could happen that when the app has just been released it will create a lot of 'overly balanced' bands.

The participants, like the interviewees, had also something to say about the dangers of an 'overly balanced' band. Some people discussed that they are or have been part of a band where, for example, two dominant people were together in the band and it only helped the band. What also could be the case in this band was that the other members maybe tended to lean more to the I score in DISC,

but this was not discussed. This, the potential creativity of having two dominant people working together, has already been discussed during the interviews, so it was no surprise that the participants had also experienced this phenomenon. What we learn from this is that DISC is still potent in this situation, however it should not be used in the exact same way as related literature found it should be used, as their goal was more related to a straightforward task performance. This research is focused on the DISC assessment's use in the creative world, and it was to be expected that some differences could occur between those two fields of work.

The last notable thing that was mentioned was that personality is important, but the importance of genre preference should also not be forgotten. This helped giving insight in that when the application is released, the inclusion of a 'genre preference' feature in the profiling screen should be at least considered.

4.3.3.10 Question 10: Feedback loop opinion

The system being an adaptive interactive system means it should learn from its own decisions, right or wrong, and one of the best ways of doing this is providing it with feedback on those decisions. Question 10 was a question to find out what the participants thought of the implementation of this feature as a way to make the system better and better with its usage. The anonymity-issue was again thrown up with a lot of people, but they were immediately assured that only the system would know about this information and everything should be kept safe 'behind the scenes'. This will also remedy the issue people have with the potential negativity that people could send to each other.

Some people came up with the issue that it could be unrealistic to expect people to give the feedback after only one session, and they could be right. It is impossible to really get to know each other in one such session, so this feature will be implemented as follows. The first three sessions people only get the option to choose if they want to go to another session with these people. When they say yes this will repeat until the third session, as that should be enough time to give feedback, or until they answer no. When they answer no they will be asked to provide the feedback the system needs to better itself.

4.3.3.11 Question 11: Ambitions feature

This question was another one that had the goal to find out whether the participants agreed with the brainstorm session with their (ex-)colleague. This time it was about the idea to include an 'ambition' option in the profiling stage. This helps to clear another potential obstruction that could blemish the effectiveness and efficiency of using the application. In general people thought this was a great idea, as this is one of the main reasons they see bands not staying together, either within or outside of their school. When people are matched that have the same ambition as for how far they will go for and with the band the chance of this problem occurring in a later stage will be diminished significantly as people already have an inherent understanding on this aspect with each other. Some people also gave the idea to have a separate choice for the number of rehearsals and concerts they would like to have, and to not mix these two aspects in one question while making a profile.

4.3.3.12 Question 12: Mandatory or optional

This question was an auxiliary one for when people did not talk about whether an option should be mandatory or not while making a profile. A lot of people agreed that the vicinity feature should be mandatory for everyone. Which is logical because the app has to work with at least some information, so at least one option should be mandatory. For it to be the vicinity feature is an easy choice, because no one will not profit from having this choice always work for them, in this context. The opinions were somewhat divided whether the 'kind of band' and the 'ambition' option should be mandatory initially. Some people chose for efficiency and ease of use and wanted to smooth out the first time you would use the app and the process of making your profile. Other people chose for effectivity and wanted

everything to be mandatory and thus having as many obstacles ironed out as possible from the first meeting.

Both options have their pros and cons and it should all be taken into consideration in the design section of this research. One group had the idea of not having anything mandatory, except for vicinity and the DISC assessment, and only mix the people together who have either filled something in or not. That way you prevent one member of the band, who does not have filled in these options (or does not know them) yet, getting in the way of the other ones who already have a clear idea where they want to go.

4.3.3.13 Question 13: Further suggestions on features

Question thirteen was designed to find out if the participants had any idea of what additional good features for this application might be. This is a capable way to find out about features we have not thought about yet, but also to find out what people might expect from the application.

One feature that was named by a few participants in different groups was an option for a chat function, or a feature that would automatically make a chat group in the message application Whatsapp for the band. Generally, this is a good idea, as this takes away an obstacle for people; they can immediately chat with each other without having to set this up themselves. The first option is a good option because then the chat feature can be tailored to what the app needs but has the drawback that it will take more development time to create this function and to make it work as good as possible. The latter option has the advantage that it will work over an already established platform. However, some connection with Whatsapp should be made, and the user would have to give the application the right to interact with their Whatsapp profile. This inherently comes with some additional difficulties that should be considered when making the decision which option to use. All in all, it would be a nice additional feature to have in the application.

Another feature that was mentioned by different people was a date picker. This feature would function like any ordinary date picker and shows the user a calendar which they could provide with days and the respective time they would be available to meet with the rest of the band. Again, there are external ways that would fill in this potential need perfectly, but it would be nice to have it in one package. These additions would help the effectiveness and efficiency of the application a lot, as there would be no need to switch between multiple applications for a purpose like this one.

The next feature that was thought up by the participants was a tool that would help the newly formed band find a spot for their first meeting. This could, naturally, be a place that rents out rooms where people can rehearse and jam with each other, but it could also be a café in a central location for when they just want to hang out first, before playing together. This would be another quality of life addition to the application that can also be done with the use of another application. However, when this feature would be added and used it could also be used to extract data, from which the system could learn different things. It could learn preferences of the café's or rehearsal rooms people like to meet, and that can be used to recommend it to other people. This further improves the efficiency of the system and helps people keeping this part of their life within one application. There would be no need to find out about good places to meet on external applications. People could also be asked to rate the places they have met, to further improve the system and its choices.

Lastly, some participants worried about when one person would not seem to fit the band and left, how would the system cope with that. While brainstorming the participants thought of an opt-out button. Everyone should be able to opt-out of the group and their interactions when it is decided that it would be best if they would look further and find another group to play with. That way the system knows that a member will be missing from that established group and can look for a person that would fit the band better. This could be a good solution to the problem the participants threw up, but it is something that should be handled correctly as it could lead to abuse. A solution to prevent possible

abuse is that the other band members should be asked to accept the abandoning done by the member that would want to leave. Something to consider would be if all members should accept or only most of them.

4.3.4 Focus group conclusion

Thus, the results of the focus groups have been stated and analyzed. One of the goals for the focus groups was to learn about the general need for an application like this one, directly from the stakeholders. Another goal was to find out their needs regarding the features this application should have when it is released. For this different groups were asked their thoughts via thirteen questions, which lead to a lot of relevant opinions and brainstorm. The raw results were noted on paper and later explicated in table 1. All questions and their results were analyzed. This can now be used in the next chapter, Design, to come to conclusions to different design problems.

5 Design

This chapter revolves around the design of the application. This is done through stating different design problems. Answering these design problems will help answering RQ2.

RQ2: Which are the design requirements of a mobile app incorporating this profiling method?

First a short context is provided about adaptive interactive systems. This is followed by design decisions which are grounded in earlier performed research. Lastly the solutions to these problems are stated, accompanied by relevant models and mockups.

5.1 Adaptive interactive systems

Adaptive interactive systems (AIS, sometimes referred to as IAS) are systems that have an interactive front-end and are capable of self-adaptation (Paramythis et al., 2010). An important and common example of this are recommender systems. Recommender Systems are software tools and techniques providing suggestions for items to be of use to a user (Ricci et al., 2011). These suggestions have the goal to support the user in their decision in, for example, what book to buy or what music to listen to. These suggestions will be based on the user's behavior in a web shop or tool that makes use of this technology. It has proven to be a good solution to information overload as an AIS actively lessens the choice that is suggested to the user down to a 'digestible portion'. Clear examples of such systems are big web shops like Bol.com and Amazon, but also services like Netflix and (parts of) Spotify are built around an AIS.

An AIS is composed out of different models and theory. Paramythis & Weibelzahl (2005) have made a decomposition model (figure 3) of this in which the different parts that make up an AIS and how they interact with each other are shown. There are two sorts of models: 'static' and 'dynamic' models. A *user model*, for example, is dynamic, as this will change and adapt as time goes by and the user uses the system. An *application model*, on the other hand, is static, as this model is designed and implemented once and will not change as much (not considering major additions through application updates). The adaptive theory stands for the method that has been chosen by the system designers that will perform the 'adaptive part' the system is based on.

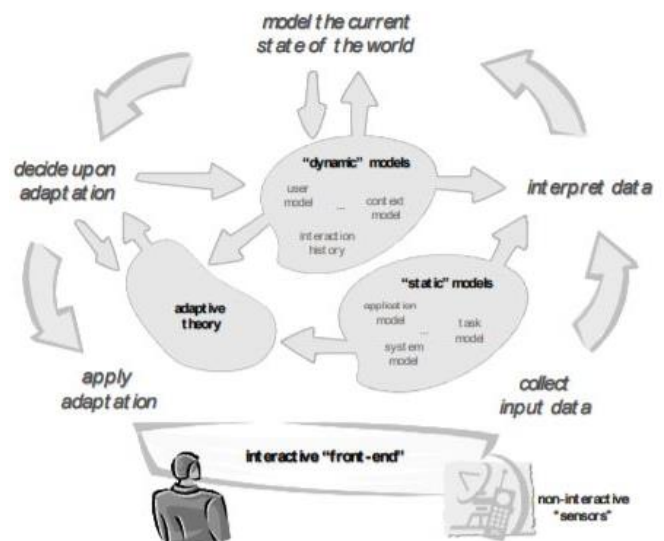


Figure 3: AIS decomposed (Paramythis & Weibelzahl, 2005)

The last topic this section will focus on is that of the evaluation criteria stated by Paramythis et al. (2010), which are *privacy*, *transparency*, and *controllability*. Privacy speaks for itself, but has been a recurring, but relevant problem for AISs. This has mainly to do with the conundrum that the system runs on the use of personal data for its personalization, but a user also values and has concerns about its privacy (Kobsa, 2007). Transparency is an equally important aspect that should be held in regard.

What is mainly important to retain transparency is to let the user know why certain decisions are made by the system. An example for this can be found in figure 4 below.

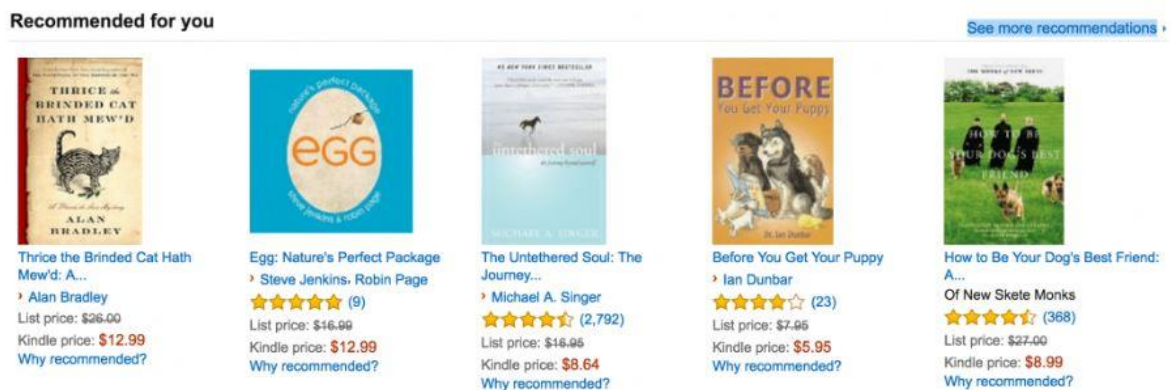


Figure 4: Amazon's recommendation system (source: tckpublishing.com)

What can be seen here is the tooltip named "Why recommended?". When the mouse is hovered over this, an explanation will be given about why and how this book got recommended to the user. This is an easy and effective implementation of transparency in an AIS. The last criterium is controllability, which in this context refers to the user's perceived ability to regulate, control, and operate the product (Zhang, Rau & Salvendy, 2007). A sense of control is created when users feel that their actions make an impact in how the system operates. This is important as this is an adaptive interactive system. It being interactive means the user actively plays its part in how the system will work, thus there is a form of control in the user's hands. When this is not the case, the system inherently fails to deliver one of its goals.

5.2 Design questions and philosophy

This section is about the problems that will be faced and must be solved when designing the framework for the application. However, first there is a section about the different kind of guidelines we want to adhere to. This is important to state early in the design phase because it provides a scope as well as a philosophy to work with. The second section will state the design questions that can be derived from the focus group sessions. This section will also provide the answers and rationales to these questions, and thus come up with the design requirements. With the help of the guidelines and the solved design questions we are able to draw a workflow in chapters 5.3 and 5.4.

5.2.1 Guidelines

This section will focus on the different evaluation guidelines that are used and adhered to when designing the framework. The first of which have already been stated but will be repeated for completeness and clarity of this section. These are the guidelines that belong to the evaluation criteria of AISs stated by Paramythis et al. (2010): privacy, transparency, and controllability.

The other set of guidelines that is important is the PACMAD model, introduced by Harrison et al. (2013). With PACMAD, Harrison et al. introduced a new usability evaluation model that combined previous acclaimed models and added one new concept to them. The combined older models were those from Nielsen (1994) and ISO (1997). The concept that was added was *cognitive overload*. In figure 5 the construction of the model and the model itself can be found.

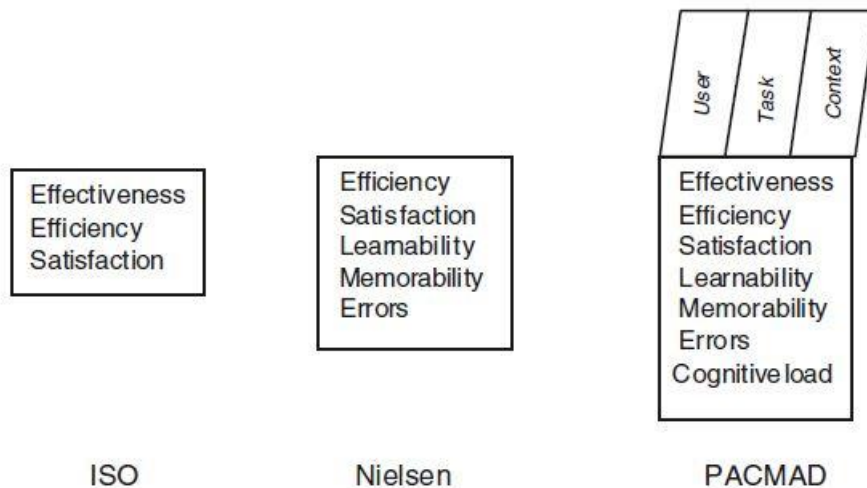


Figure 5: PACMAD by Harrison et al. (2013)

Figure 5 can also be read as follows: PACMAD adds the concepts effectiveness and cognitive load to Nielsen’s model. It also acknowledges three factors of influence to the usability of a system; the user, task, and context of use. The user and task concepts were already seen as influential factors in the earlier models, but the addition of context of use comes with the design of a mobile application, as the system turns, naturally, in a ‘mobile’ system. A system that can be used anywhere and anytime.

5.2.2 Design questions

In this section decisions are made and explained on relevant discussions and opinions from the focus group sessions. Every decision gets its own row in table 2 and the columns are filled with the discussionID, and the discussion in question.

DiscussionID	Discussion
D1	What options to give for the maximum distance within you want to meet people?
D2	Should the ‘kind of band’ option be made mandatory to fill in?
D3	Are the cover bands and original work bands options enough for this feature?
D4	Will the concept of ‘balanced bands’ (as derived from Lykourantzou et al. (2016ab)) work now we know more?
D5	Should ‘preferred genre’ and ‘skill level’ be part of the profiling?
D6	When should the discussed ‘feedback loop’ initiate?
D7	Should the ambition option be mandatory to fill in?
D8	Should rehearsals and number of concerts be separate options instead of one ‘ambition’ button?
D9	Should there be a chat feature, and how to implement it?
D10	Should there be a date picker?
D11	Should there be a ‘spot recommender’ feature in the application?
D12	Should there be an ‘opt out’ button?

Table 2: Discussion table

5.2.3 Design decisions

In table 3 the questions from table 2 are answered. There is also a short rationale to provide clarity as to why these decisions have been made.

DiscussionID	Decision	Rationale
D1	Initially only use numerical measures. Thus, 1, 2, 5, 10, 20, 50, 100 km will be used.	Versatility is important, but it should not get in the way of clarity. Everyone has their own interpretations of words like regional and local. Kilometers/miles are absolute and clear
D2	The 'kind of band' option will be mandatory to fill in. For the people who have not made their choice yet there will be an extra option.	Because 12 participants said, without it having been explicitly asked yet, that this should be mandatory, followed by more people, when it was asked, this option will be made mandatory. When people do not have a preference, they can choose the option 'no preference', and these people will then be put together.
D3	The cover and original work band options will be enough for now. Like stated earlier, there will be an option added called 'no preference'.	The scope of this research only allows for traditional band forms to use the system. For groups or individuals like orchestra's and producers it has not been researched yet if the system would work.
D4	Yes, DISC can still be used. However, the definition of a 'balanced group' should be adapted and reworked for this study. (See section 4.3.3.9)	While performing the interviews and focus groups it turned out the participants indeed shared that their successful bands had members that they thought were nicely balanced across the DISC assessment. However, it turned out that for example a group with two dominant people and two or three members with mixtures from the other letters could be very creative and successful. Thus, this will also be an option for the formation of bands. The system will learn over time if it works or not.
D5	Preferred genre and skill level will be added, but they will not be mandatory.	These options could be relevant for people looking to join a band. However, this project has not performed any research on the significance of these topics. This could be something for future work. Therefore, these will not be mandatory.
D6	The feedback loop will initiate after three sessions if the group stays together. Otherwise it will start when the group disbands, or somebody leaves.	While brainstorming the timing of this feedback loop in the focus groups, most participants thought it is a better idea to start this after two or three sessions. Thusly, the decision has been made. Additionally, it will initiate when the

		group disbands, because the system needs to learn from this. The feedback will be processed anonymously.
<i>D7</i>	The 'ambition' option will be mandatory to fill in.	As we want to clear as many obstacles as possible, this option will be mandatory to fill in as well. It hurts some of the efficiency of the profiling phase, but it will help the effectiveness of the system so much more when everybody fills this in.
<i>D8</i>	There will be separate choices for the number of rehearsals and the number of concerts people would like to play in a period. The options will be stated as follows: "x times per week/month/three months/year"	It is much more flexible to have these buttons separated instead of having to choose between presets for both at the same time. This way people can tailor their preferences to their liking.
<i>D9</i>	A chat function should be present as this will make communication much easier.	A simple chat function will be implemented in the application. This way users avoid the hassle of having to give up their phone number and make a connection on another chat application (if that is even possible). People will only be able to chat within the group they have been put in by the application.
<i>D10</i>	Initially the date picker will not be included.	The users will be able to communicate with each other through the chat function. That way they can learn when people are available. When the app is released, market research can be performed if the need is there to have an integrated date picker.
<i>D11</i>	The 'pick a meeting spot'-feature could be handy to include.	This will greatly help with various evaluation criteria. It is possible to integrate an API from Google Maps to find different spots, central to the members of the band, where users can meet. Data can also be collected whether people liked a place they visited in this context (of potential future band members).
<i>D12</i>	There should be an opt-out button implemented.	This will come in handy when some people of the band want to stay together, and others do not. The app will keep the members who stay in the 'band members environment', while the people that opt out will be put in the 'matching environment'. The acceptance feature will not be implemented at first. However, there will be a notification sent to the residual band members that one of them has left.

Table 3: Decision table

In table 4 is stated which guidelines from section 5.2.1 have been adhered to by the decisions made on the mentioned DiscussionIDs.

DiscussionID	Guidelines adhered to
D1	Effectiveness, learnability, controllability
D2	Effectiveness, controllability
D3	Efficiency, cognitive load
D4	Effectiveness, satisfaction, transparency, privacy
D5	Effectiveness, controllability
D6	Efficiency, privacy
D7	Effectiveness, controllability
D8	Efficiency, controllability, satisfaction
D9	Effectiveness, satisfaction, privacy
D10	Efficiency, privacy
D11	Effectiveness, satisfaction
D12	Privacy, transparency, controllability

Table 4: Guideline table

5.3 Workflow and Mockups

In this section the workflow of the application is described. This is done with the help of a petri-net. Also, various mockups are shown that give an indication of the implementation of certain features.

5.3.1 Workflow model

In figure 6 a Jasper workflow model can be found. Jasper is a system in which it is possible to clearly model a workflow with the help of some simple symbols. In this model the yellow circle, yellow square, and orange diamond symbols are used. The yellow circle represents the state the system or user is in, the yellow square represents an action the user can take, and the orange diamond represents a choice. The blue rectangles divide the model in different sections within the workflow. Designing a workflow model gives an overview on how a product or process is used. Additionally, it is made to help a designer map out potential usages/features for their product. Figure 6 helps to give an overview on what the most efficient use of the application is and which requirements should be put in which place. This is clarified later on with the help of mockups in section 5.3.2

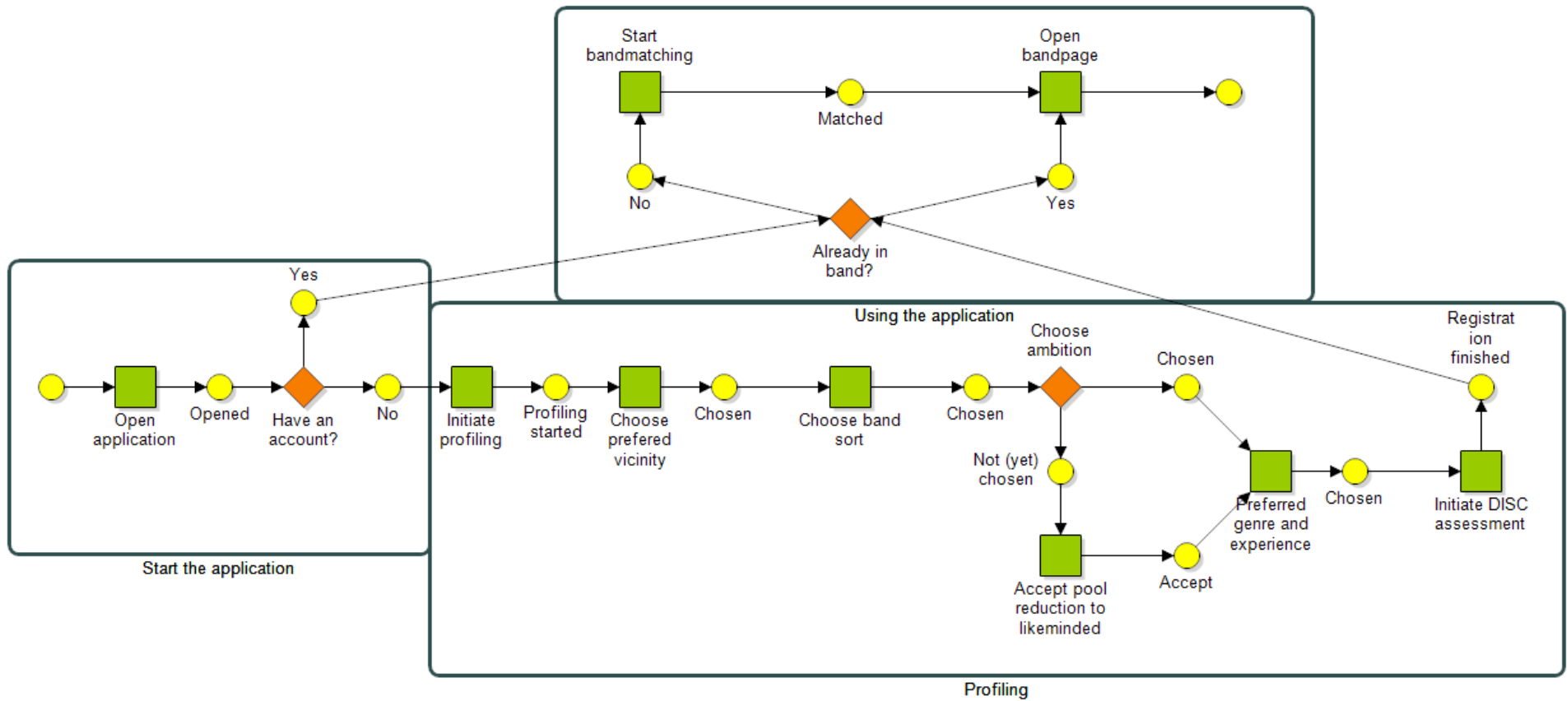


Figure 6: Workflow model of Bandmatch

5.3.2 Mockups

In this section the different mockups are shown accompanied with an explanation of what can be done on the shown screen. The mockups have been made in an online tool called Moqups. This tool has many built in UI parts that you can drag and drop across different stencils. However, it has one downside which is that the resources available only allowed me to make a limited number of pages before me or the university (the provider of the used e-mail address) would have to pay for it. With that in mind we made sure the mockups that could be made were as complete as possible, adhering to the design decisions made in section 5.2.3. Also, the default phone it uses to make mockups in is the iPhone 6 which released in 2014 with iOS 8 (we are at iOS 12 right now), which makes it look a bit outdated, but it does not get in the way of getting the message across.

5.3.2.1 First use of the application

When using the application for the first time you are greeted by a login screen. Here you can simply login if you already have a profile and this will be the first and last time when using the phone you are using at that moment. This can be seen in figure 7.

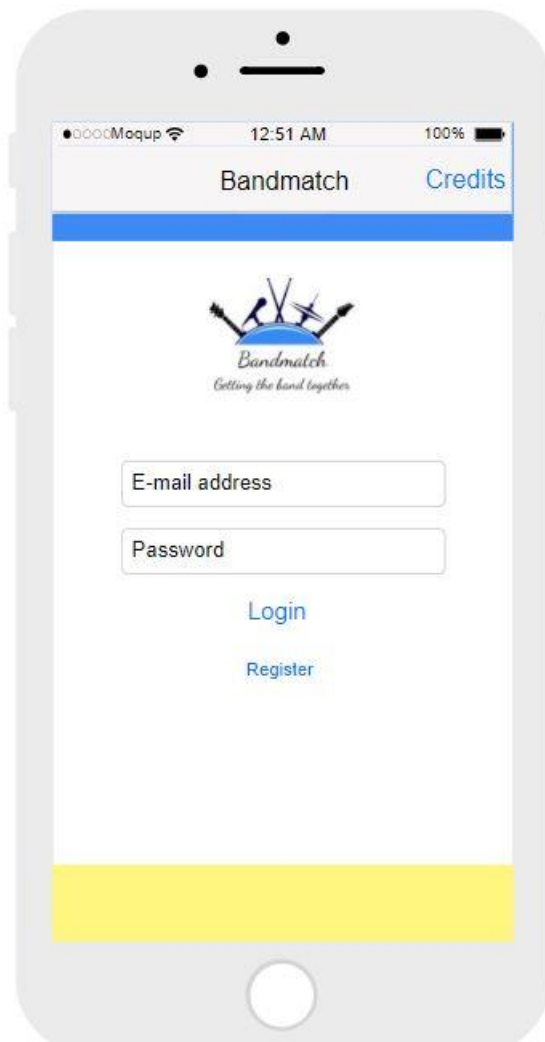


Figure 7: Login screen

Everything you expect from a login screen is in the place you expect it to be and there are as few as possible objects. This is to reduce the cognitive load and increase efficiency. Also, a possible logo for

the application is introduced. Normally the user does not have an account and that is when the next screen is shown

5.3.2.2 Registering and profiling

When the user does not have an account, they can create one by clicking register in figure 7. When this is done the user is shown what can be seen in figure 8 and 9. First the user is asked to create their account, the standard simple things are asked for this. On the next page (figure 9) the first part of the user's profile is created.

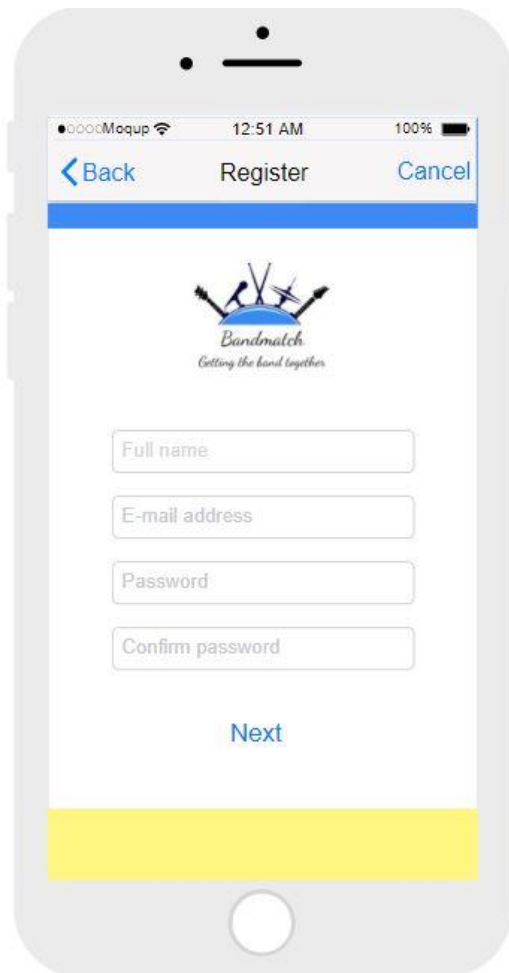


Figure 8: Register page

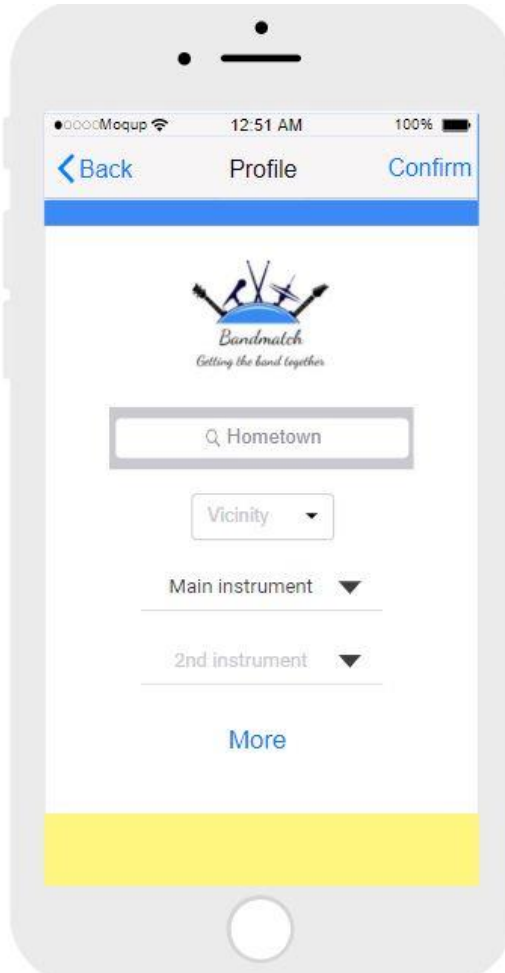


Figure 8: Profiling page 1

Here we see the first features that have been discussed in the focus group coming through. The information about where you live, in what vicinity you want to meet people, and your instrument(s) is asked here. When the 'more' button is pressed, the user will enter the next screen (no mockup made, due to similar style screen) where people can enter their preferred band and their ambition (divided by two separate pickers for number of rehearsals and concerts). Also, on this page the preferred genre and experience per given instrument will be asked, but these are, as stated, optional. If this is not deemed necessary or important by the user, these can be left blank. Afterwards the final part of the profiling will be entered: the DISC assessment.

5.3.2.3 Registering and profiling

The DISC assessment is the last part of the profiling stage and is the motor that drives the engine, so to speak. This is one of the main cogs of the system so it needs to be clear, user-friendly, and should encourage the user to finish this one last step before the application can be used. Therefore, an

additional question was asked during the focus groups based around which DISC assessment method to use. When looking for ways that the DISC assessment is implemented throughout different websites and companies, a lot of methods can be found. Two distinct ones were picked, and during the focus groups users were asked to pick between A (figure 10) and B (figure 11).



Figure 9: DISC method A

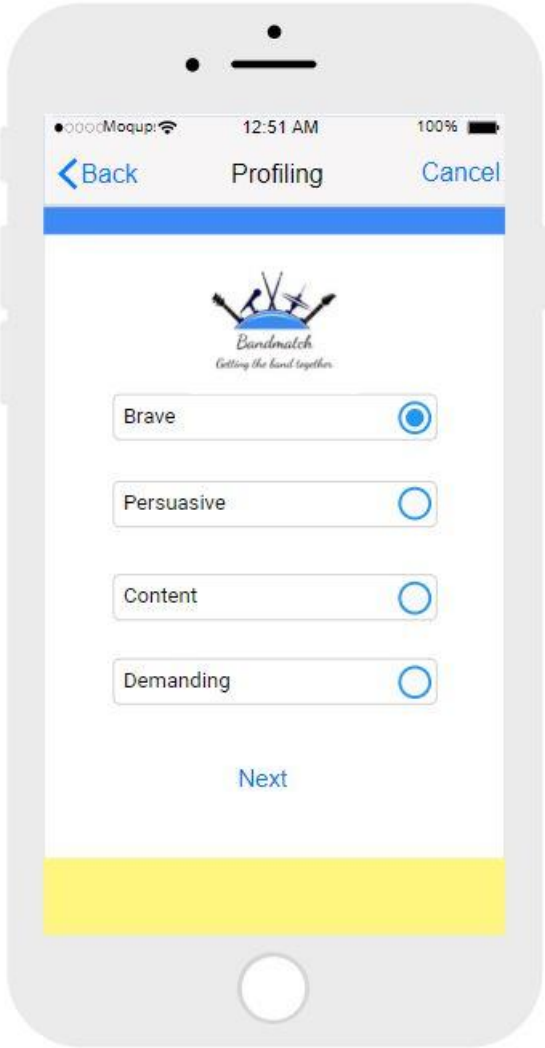


Figure 10: DISC method B

As can be seen, both methods are different, but both have their advantages and disadvantages. When the participants were polled, however, method B won by a landslide. When the 20th vote for method B came in, the physical tallying stopped, because it was impossible for method A (only 3 votes at that point) to win. The most commonly named reason, when asked, for choosing B over A was it looks quicker and more intuitive. With version A you know better what you are up for, as you can see the remaining questions, but having to read the questions and then thinking about what fits you most does not feel as intuitive as just picking the word that describes you most, apparently. Therefore, when the actual application will be built, implementing method B is highly recommended. When that is finished the system will find bandmembers for the user. Afterwards, a band page is created.

5.3.2.3 Band page

The band page, as can be seen in figure 11, will function as the hub for the band. On this page a band picture can be posted, to personalize the page a bit more. Furthermore, the chat can be opened, as well as some other actions can be taken (accessing the band agenda, i.e.). The profiles of the different

bandmates can also be found on the band page, by clicking on one of the names. On the profile page everything that a certain band member filled in for his/her profile, and that has also been set as 'visible by band members' (or less strict) can be seen. The profile screen has no mockup because this will look fairly the same as the band page, only with another picture and information displayed. Also, the chat button will be changed to a personal chat/message button.

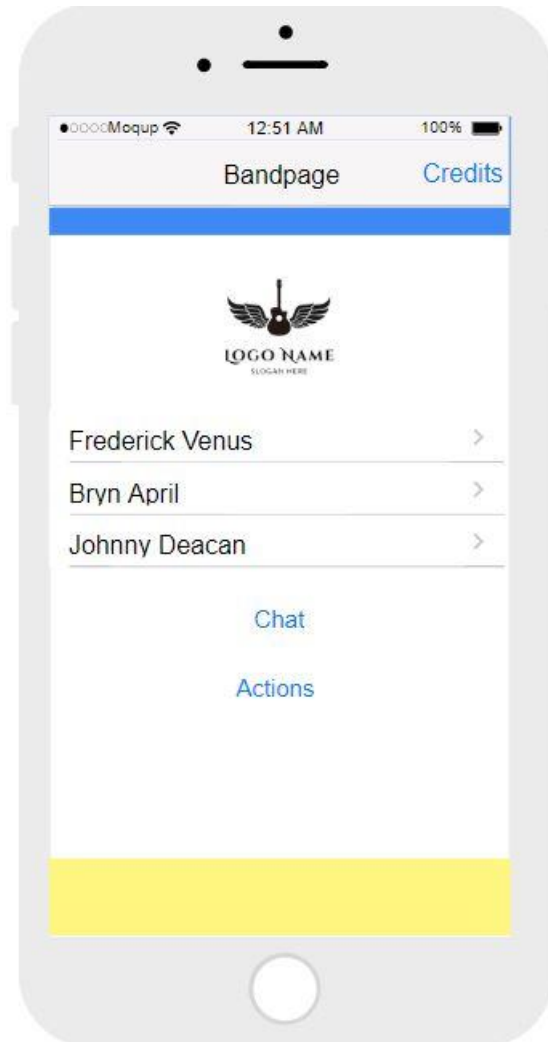


Figure 11: Band page

5.3.2.4 Mockups conclusion

As stated earlier, the mockups are somewhat simple as of yet. This, again, has to do with the resources provided by the tools used, but also shows that we want to adhere to the PACMAD system, and (among other guidelines) want to bring across the importance of cognitive load. These mockups serve in a very conceptual way and help to give the initial form for when the application is built eventually. The goal of these mockups is mainly to provide a design framework that is taking into consideration the design decisions and the guidelines that have been determined in section 5.2.3. Every decision made in table 3 (and their congruent guidelines stated in table 4) can be found in these designs. From the straightforward vicinity feature, with the dropdown menu to choose one of the vicinities discussed in table 3, to the best tested profiling page option (regarding efficiency and cognitive load) coming out of the focus groups.

6 Discussion

This chapter will review the validity of the research that has been performed, as well as the limitations found during the research. As this is a qualitative research, we will use the model Johnson (1997) has created.

6.1 Validity

Johnson (1997) discusses three different forms of validity that should be found in qualitative research: descriptive, interpretive, and theoretical validity. He also added two forms of validity found in quantitative research to the model: internal, and external validity. In this section these forms of validity are discussed. Additionally, how they can be found in this report will also be discussed.

6.1.1 Descriptive validity

Descriptive validity refers to the factual accuracy in reporting descriptive information (Johnson, 1997). A question that can be asked to find out about this is “Did the researcher accurately report what they saw and heard?”. A way to make sure that this happens when performing interviews, as done in this research, is to record the interview and transcribe this (as literally as possible). This has been done exactly in that way with the interviews that have been performed. The quotes that can be found throughout this report have been drawn from these transcriptions.

For the focus group, important quotes and data were noted down on paper. That way they could as accurately as possible be stated and used in this report.

6.1.2 Interpretive validity

Where descriptive validity is a bit more literal; the facts need to be stated accurately, interpretive validity is a bit more abstract. Interpretive validity refers to accurately portraying the meaning attached by participants to what is being studied by the researcher (Johnson, 1992). To make it more specific, it refers to the way feelings, viewpoints, thoughts, experiences, etc. are accurately understood and portrayed in the research report. For the interviews this is done by first clearly stating the backgrounds of the different interviewees. In between the quotes there are descriptions and analyses performed of what the interviewee said and how it relates to the research subject. Throughout the interview it was also made sure that the opinions and thoughts about the subject from the interviewees were correctly recorded. This can, among other places, be found in the serendipity section (4.1.6) where some opinions and experiences can be found on similar subjects from the interviewees’ experiences.

For the focus group this was easier to perform, but harder to record. Because of the conversational nature, and because there is much more time available with a group than needed, it is easier to try to ‘get in the heads’ of the participants. When someone gets a questionable look on their face, or when somebody has an extensive opinion about something there is time to hear them out about it. The records of the focus group were (for logistical reasons) lo-fi, just some pen and paper, and that makes it much harder to record these moments. However, right as the focus group sessions were done, table 1 was made and filled with the raw results. This way the context of everything that was noted down on paper could immediately be put in the table, making sure nothing would get lost.

6.1.3 Theoretical validity

Research can be deemed theoretically valid when the theoretical explanation developed from a research study fits the data (Johnson 1997). This is again a bit more abstract than the previous concepts but can be found in this research when comparing the literary review (found in chapter 2) to the answers from the interviews (found in chapter 4). The theory that has been found, originating from one field of work, serves as inspiration for the interviewees, and functions to spark and extract memories of experiences, but also expert opinions from their own fields of work. These experiences and expert opinions can then be used to accept or reject the hypotheses, which help answer RQ1.

The focus group sessions differ a lot from this. The focus group sessions were used to gauge interest in the potential product this research proposes and to perform requirement elicitation for it. However, what can be seen is that the theory is still found within these focus groups when people answer questions about their experiences with forming a band and their opinions on the DISC assessment. Their reactions and opinions can be traced back to concepts found in the literary review (mainly team dynamics, balance, and personality).

6.1.4 Internal validity

Internal validity originates from quantitative research but can be of significant importance in qualitative research as well. Internal validity refers to the degree to which the researcher is justified in concluding that an observed relationship is causal (Cook et al., 1990). Two ways to help increase internal validity are *method triangulation* and *data triangulation*. These methods both require to use more than one research method and more than one source of data for these methods to come to your conclusion, respectively. When referring to method triangulation, three different research methods were used, namely, a literature review, interviews, and the focus groups. Similarly, data triangulation has also been adhered to. For the literary review different search engines were used, mainly Google scholar, Scopus, and Worldcat. Additionally, two interviewees with complimentary backgrounds were chosen for the interviews. Furthermore, the participants of the focus group were varied in a lot of ways. Mainly their study year, country of origin, and levels of experience were significant for the data triangulation.

6.1.5 External validity

External validity is important when you want to generalize from a set of research findings to other people, settings, and times. However, this is not a main concern for most qualitative research (Johnson, 1997). This research could not be generalized to another time, as the need for this kind of technology is too big and fitting in the time period. This research could be generalized in other settings, as the research towards the possibility of creating this system could be applied in a lot of different fields of work. For this research music has been chosen, but it could be applied in any form of collaborative task performance.

6.2 Limitations

Some limitations have been run into while performing this research, this section will discuss these. Firstly, it was not foreseen that it would cost as much effort as it took to find participants for the research methods, mainly interviewees. The plan from the start was to work together with different conservatories in the Netherlands and to use their employees as experts, and their students as participants. However, it was not taken into account that the job at the conservatory was not the only job most employees have; thus, it was very hard to get in touch with the right people and then also find a spot in their calendar to plan the interview in. In the end the perfect interviewees were found, and their contribution was very valuable to this report. The only gripe is that there could maybe have been more interviewees if these people were contacted even earlier than they already were.

Secondly, and this is more a change of plans than a limitation of the research. The original plan with the students was to perform a lo-fi experiment with them. The plan was to ask the school if it was possible to take one moment of their day to perform the following: First the students would fill in a DISC assessment test, after which bands would be formed with the results of these tests. The students would get these results back and would be set up in these bands, with which they would rehearse the following month. The next month the school would organize a show where all these bands could perform some songs. When this was all said and done, the participants would get a questionnaire sent with questions about their experiences with this project. The problem with this idea is that it would take a lot of time, and when the last interview was finally done there was not a lot of time left.

Fortunately, we still got the option to visit the school on one of the 'original work bands' days and had the opportunity to perform a lot of small focus groups that day. These results have not disappointed and provided a form of data that was very usable, but it is still unfortunate that it was not possible to work with the data we expected to gather at the start of this project.

The final limitation is the data recording method of the focus groups. As the day itself was set up a bit improvisational, it was impossible to predict the amount of resources (recording device logistics, informed consents) needed to record every session that day. The best solution for this was to turn to pen and paper and note as much as was possible while maintaining the conversation. Afterwards it was imperative to immediately note all the information gathered and remembered in a table so these could be analyzed on any other day, without the risk of forgetting to include some of the data. This solution worked well but can still be seen as a limitation.

7 Conclusion

This research proposed a design framework for an AIS that has the function to match people, who are strangers to each other, in a balanced line-up. This all for the band to potentially be creatively as successful as possible. The need for such a system has been found in a one question survey where people would say if they would use and/or recommend such a system to their peers. It was found that a large majority reacted positively to this.

The neediness of such a system is not enough, it should also be possible to create such a system and the logic behind it must work as well. To research this RQ1 has been stated:

RQ1: (How) can we design a profiling method to help people find a balanced and functional line-up?

First a literature review (chapter 2) was performed in which literature from many fields of work were drawn, among which Business psychology and informatics, Music science, and HCI. This literature review led to the creation of seven hypotheses, of which three were chosen to research. These were chosen respectively to find out more about the team dynamics within a music group, learn about the importance and differences of teamwork dynamics in such a group, and whether the DISC assessment could be used to make a balanced band line-up. Through two interviews (section 4.1) and seven focus groups with 31 participants (section 4.3) it has been found that the hypotheses could all be accepted and that it is possible to start with a design framework for a profiling method to help people find a balanced and functional line-up.

For this it was needed to find out what important characteristics are for an AIS, as well as what kind of features would be necessary to include in such a system. To research this RQ2 has been stated:

RQ2: Which are the design requirements of a mobile app incorporating this profiling method?

To answer this question a context, as well as some evaluation criteria to adhere to, have been provided (sections 5.1 & 5.2). For the features it has been chosen to perform requirements elicitation in the form of focus groups (section 4.3). The participants of these focus groups were first to fourth year students from a conservatory in the Netherlands. These are the potential users and, with that, one of the main stakeholders of this product. In these sessions many opinions and experiences have been gathered, which immediately have been put in table 1 (pg. 32) on which the analyses could then be performed (sections 4.3.3 & section 5.2). This all gave a good idea of the design requirements needed for a mobile app that would incorporate a profiling method such as the one researched in this same report. To conclude this the design framework was created (section 5.3), and with that RQ2 has been answered as well.

7.1 Future work

In this section chances for future work will be described. This research has been an explorative one, which has the advantage that it is only the first step in learning about what is possible in this domain of work.

For the literary review, a lot of information has been found in different fields of work that could be significant for a research revolving around the system that has been proposed in this report. Due

to resource limitations it was only possible to research a select few of those. Noting that these hypotheses have been significant for this research, it is very interesting to find out if the other stated hypotheses could add more knowledge to this domain of work. In section 3.1 a summary of the topics of these hypotheses can be found, this could help with finding inspiration on where to look for additional literature. Because some more literature needs to be found to solidify these other hypotheses a bit more. It could also be interesting to look at the serendipity section (4.1.6) in the analyses of the interviews.

Additionally, another research could test how good this system would work by performing the proposed experiment (section 3.2). This experiment would feature the usage of the proposed design framework on a big group of musicians. That would result in different bands being created that could play music together. After some sessions, a survey would be performed on whether the participants thought the system had helped them find a solid band in which they can see their ambitions fulfilled or not. The resources did not allow for this in the current research, but a new one could be created built around this experiment and could find a lot of interesting results.

Furthermore, many implementation options could be explored. Naturally, not all features that would be possible for this system have been found in this research and therefore it could be possible to base a research around the requirements elicitation for the application. Also, it could be researched how to best implement the features that have been found but omitted in this design framework. For example, the implementation to add the choice for relative vicinity options (local, regional, etc.) to add to the current absolute vicinity options. It could also be researched if there should be another version of this system for producers looking for bands to produce. For this it needs to be researched what kind of personality would match best with the overall personality that can be found in the members of the band. Additionally, a feature adding the choice of genres and skill level could be researched.

Another idea would be to perform a product test in the form of user journeys during a focus group. In this (ideally music) students will be shown some prototypes for a mobile application that could be designed using this research. The students will then be asked to give their opinions about the different features of the prototype or the features they are missing. These students are a good testing group for this, as they are the target audience of the application. Their opinions can be generalizable this way. Besides the students, other musicians should also be asked about their opinions. This will prevent any bias that can occur while testing the product. The product also needs to be tested by 'common people' that also are musicians, and not only by people who are living their lives in the world of music. This is important because the students will have more musicians in their social circle than the average person has. Their opinion is important, but so is the opinion of people who do not have music and musicians around them almost all the time.

Lastly, the security of the proposed system could be researched and optimized. Privacy has been considered and held in high regard, as it was one of the evaluation criteria found in the literature (Paramythis et al.,2010). This was also outside of the scope of the research because we are no security experts, and it would take too much resources to learn enough about this topic to be able to properly include it in this report. Security is a very important part of AISs, so it should only be natural that this will be properly researched before the final implementation and release of the proposed system.

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Appendices

Appendix A: Informed consent design

Interviewee agreement consent form

Statement

The undersigned,

Name:

Date of birth:

City:

hereinafter referred to as the interviewee, states as follows:

I, the interviewee, grant Stephan den Ouden in Rotterdam and/or the University of Utrecht the right to store and preserve the conversation recorded on [Date] in the year [Year] for the research towards creating an *Adaptive interactive system* for forming 'balanced bands' by Stephan den Ouden in the context of the study Business Informatics in their archives and to make it available to the general public.

I, the interviewee, state that the purpose of this project is completely clear to me.

I, the interviewee, explicitly consent to the publication of my personal data recorded during the interview.

I, the interviewee, state that I shall not object to publication of the (materials and that I shall not make any claims under my portrait rights in connection with these materials.

Drawn up and signed in duplicate, one copy being handed to the interviewee, and one copy being handed to the University of Utrecht

.....,

in Utrecht on 21-06-2019

[Name]

Appendix B: Interview Transcriptions

These transcriptions have been anonymized for privacy reasons. The artists have been named 'Muzikant' A-E. The interviewees themselves have been named 'participant' 1 and 2.

Interview Transcript Participant 1

1. *Wanneer alle leden van een band hun neuzen dezelfde kant ophebben (een common purpose), hetgeen ze een soort van samenbindt, en ervoor zorgt dat ze samen naar hetzelfde doel werken, heet het een joint enterprise. Dit is een van de drie ingrediënten die een groep moet hebben om een Community of Practice te zijn. Dit is een soort gemeenschap of werkgroep, waarvan ik de relevantie aan het onderzoeken ben in de wereld van muziek. Wat kunt u me vertellen over het voorkomen van Joint enterprise in de bands waarmee u hebt gewerkt? En hoe presteerde deze band ten opzichte van een band waar dit niet voorkwam?*

A: Jeetje. Ja, een Joint Enterprise. Ik denk dat het handig is om eeh... De neuzen dezelfde kant op... De vraag is of dat, ik ga maar gewoon een beetje praten. De vraag is of dat iets expliciets is, iets dat uitgesproken is tussen de leden in de groep, of dat het gewoon iets aanwezig is. **Niemand in de groep is er zich bewust van, maar als een buitenstaander ernaar kijkt dan merkt hij het zeker wel. En dan kan je een tweede kant hieraan zien, de neuzen dezelfde kant op, kan je natuurlijk op allemaal verschillende domeinen zien. Dat kan zijn de ambitie van een band, maar dat kan ook zijn 'dit concept dat we nu aan het doen zijn'. Dan kan het best zijn dat die neuzen op het ene vlak wel dezelfde kant op staan, maar op het andere vlak niet.** [Stephan legt de originele opzet van de vragen uit] Maar laat ik kijken of ik een beginnetje kan maken. In de muziekwereld en dan met name in bands... Als het gaat om studioproductie, dan kan eeh, tja bands die eeh. **Ja, dan zitten we weer met dat expliciete en impliciete. Het is heel makkelijk voor een band om enthousiast te zijn en te zeggen van "We hebben hier een liedje, dat gaan we even opnemen". En dan is er wel een expliciete 'we hebben de neuzen dezelfde kant op', het enthousiasme wordt gedeeld en er worden soms omschrijvingen gedaan. Maar dan gaat het fout want... De beroemde uitspraak: "Praten over muziek is als dansen over architectuur". Dan wordt er gesproken over wat het zou moeten gaan worden en dan krijg je dat effect dat mensen dezelfde taal spreken, letterlijk zeg maar, dat ze denken te communiceren, maar in werkelijkheid langs elkaar heen praten. Dus ze denken dat de neuzen dezelfde kant op staan in het talige, maar als je dan gaat kijken naar wat gebeurt er dan eigenlijk in werkelijkheid in het muzikale domein dan blijkt dat te schuren.** Iemand die produceert, als je in zo'n situatie op een of andere manier de boel zo wilt organiseren, niet per se de leiding nemen, maar het zo wil organiseren dat het de goede kant op beweegt. Die zal daar op een of andere manier mee om moeten gaan. En dat de neuzen dezelfde kant op, oh en dan kom ik langzaam wel bij voorbeelden waar je misschien wat aan hebt, dat kan wel zijn op het vlak van het artefact, dus dat wat er gemaakt moet gaan worden. **Waar het over lijkt het dat er dus consensus over is, dat erover gesproken wordt, maar in werkelijkheid raakt die taal niet precies wat het moet zijn, en wordt er langs elkaar heen gesproken. Maar wat misschien nog veel interessanter is. Is dat dat hetzelfde kan zijn als het gaat over de volgprocessen en de fasen waar je in zit. En wat ik zelf altijd een hele interessante vind, gevonden hebt, en nog steeds trouwens als ik met bands werk. De activiteiten, je kan ze op allemaal verschillende manieren labelen, en een van de mogelijke labels is dat een activiteit of divergerend is of convergerend. Wat ik daarmee bedoel is: Divergerend is het veel meer exploratieve, en binnen bepaalde randvoorwaarden zoeken naar het onbekende. In muzikale termen gaat dat vaak over meer improviseren,**

experimenteren en dergelijke. En het convergerende is veel meer ‘we weten wat het moet worden en alle acties zijn gericht om dat doel te bereiken’. Wat je vaak ziet in groepen is dat een deel van de mensen zit nog in dat divergerende terwijl een ander deel al is omgeklapt in het convergerende, en dat kan dan gaan clashen. Want die twee aspecten die zie je bijvoorbeeld in studioproducties op het niveau van de hele productie, ook op het niveau van iets wat een kwartier duurde, bij wijze van spreken. Een gitaarsound maken ofzo. En daar zit ook een beetje een ‘de neuzen dezelfde kant op’ probleem. Maar dan niet zozeer op het niveau van ‘wat willen we bereiken’, maar op het niveau van ‘welke fase van het creatieve proces’ zitten we eigenlijk. En dat is wel een interessant verhaal.

2. *De volgende twee vragen zullen ook gaan over het CoP concept. De vragen zullen uitweiden over de overige twee ingrediënten van een CoP. Een CoP werkt door zijn Mutual engagement. Dit zijn de interacties die plaatsvinden binnen de groep, en helpt ze samenwerken naar hun doel en maakt ze als het ware één sociale entiteit. Belangrijk is dat deze interacties vooral plaatsvinden (naast sociale interactie) om informatie uit te wisselen, en niet te onttrekken (wat ik nu aan het doen ben). Iedereen in een CoP moet op een bepaald gelijk niveau zitten qua basiskennis aangaande hun eigen domein. De mutual engagement interacties zullen de leden helpen hun basiskennis uit te breiden. Wat kunt u me vertellen over het voorkomen van mutual engagement in de bands waarmee u heeft gewerkt? En hoe presteerde deze band ten opzichte van een band waar dit niet voorkwam?*

A: Als jij zegt kennis, vind ik heel interessant. Want musici, musiceren gaat een deel over kennis en kennen. Bijvoorbeeld op gitaar de akkoorden leren, begrijpen, dat soort dingen. Maar het impliceert een beetje dat... **Die kennis die zit in je hoofd, dat enigszins losstaat van het andere, namelijk muziek maken. Terwijl muziek maken gaat heel erg over real time in het moment. Dus een soort van embodied kennis.** Je kan niet gaan nadenken over welke ligging van dat C akkoord ga ik pakken, want het moet op dat moment gebeuren. Wat mijn eigen ervaring, ook als muzikant, is geweest, is dat... *mutual engagement?* [leest de uitleg]. **Het als band spelen op een podium, daar doet mij dit heel erg aan denken, die interactie, één sociale entiteit, dat gevoel van dat je één bent met z’n allen op het podium, dat alles in elkaar grijpt. Daar zit zelfs een machtsaspect aan. Je hebt grip op de situatie, er staan mensen in het publiek tegenover je en die gaan helemaal mee. Met macht bedoel ik dat muziek maken gaat om tijd, en over het vormgeven van tijd, en dan heb je de macht over het verloop van tijd, in zo’n concert situatie. En wat dan een bijzondere is is dat je dan ineens als groep hebt. Dat je dat gevoel van dat gezamenlijke hebt. Maar als je dat aan, wat je net zei, kennis koppelt dan is dat een hele gekke, want er is helemaal geen tijd om met kennis bezig te zijn. En dat is die embodied knowledge die op dat moment werkt.** De connectie die je maakt met je medemuzikanten, tijdens het spelen, en vandaar het gevoel van “Hé, wij hebben dit helemaal onder controle, wat kan ons gebeuren”, er gebeurt wat gek, met je allen beweeg je die kant op, of juist die kant op, en ik ga daarin mee. **Die gezamenlijkheid die je dan voelt die is heel bijzonder, en ik kan je zeggen, ik heb zelf op een behoorlijk hoog niveau gespeeld. En dat dat echt allemaal in elkaar klikt en dat je in een gezamenlijke flow komt, dat gebeurt 1 op de 10 à 20 keer ofzo, en dat is verslavend.** Als je dat eenmaal een keer meegemaakt hebt als muzikant, dan ga je dat, met z’n allen ook, ga je dat proberen te bereiken. Lukt heel vaak niet, dat is dan weer een frustratie die daarbij zit. **Muzikanten die dat kennen, wel kennen maar in de zin van reflectie. Dus buiten de concerten om dat gevoel herkennen, achteraf. De meeste muzikanten zeggen dat dat het is waarom ze muziek maken, dat streven ze na, en als het dan weer een keer gebeurd is dan kunnen ze daar gewoon een week lang euforisch van zijn.**

Dan is het weer weg en dan is het weer aah we moeten dat weer voor elkaar krijgen. Ze zullen er misschien niet in die termen over spreken hoor, maar dat zie je dan wel weer terug. [Stephan legt uit waar de termen vandaan komen en de uitdagingen die erbij komen ze om te zetten naar een ander vakgebied] Je kan er dus niet over praten want het gebeurt, je kan het niet even stilzetten, want dan verbreek je de muziek en dan is er geen muziek meer en heb je niks meer om over te praten. [Stephan realiseert zich, dat hij er nooit over na had gedacht dat het wel bestaat maar op een compleet andere manier dan in de bedrijfswereld of andere plekken waar CoPs voorkomen, het impliciete gedeelte vooral]. Om het even concreet te maken. Ik heb zelf heel veel live gespeeld in de jaren 90, begin jaren 00 en het was met Muzikant A. In die tijd had hij een paar internationale hits, in Azië bijvoorbeeld. We wisselden nog wel eens van bandlid, ik heb dat ongeveer 7 jaar gedaan. En het is wel alweer een tijd geleden. En in die tijd hebben we wel eens wat wisselingen meegemaakt, andere bandleden, mensen die eruit gingen en er weer in kwamen. En die moesten dan weer in de groep hechten. En die muziek die wij maakten was een soort crossover. Muzikant A die kwam uit de jazzwereld, actief in de jaren 60, en die was altijd op zoek naar wat er op dat moment in de popmuziek bezig, gaande was. Maar dan wel muziek met een hoog energieniveau. Dus als het punk moest zijn was het punk, maar in mijn tijd was het wat je dan noemde 'Big beats'. House die over energie ging, dus denk aan 'Underworld', 'Big beats'. We startte altijd op dit energieniveau (hand op gezichtshoogte), en probeerden te eindigen op dat energieniveau (hand ruim boven het hoofd). Het punt van die band was eigenlijk om altijd precies op het laatste stukje van het concert over de top te gaan. En dan te stoppen en dan te verdwijnen, het publiek zo een beetje achter te laten in 'Wat is er net gebeurd? Dat was best lastig, het soort muziek dat we maken dat werd gezien als heel simpel, soms zelfs 1 akkoord en dan immer gerade aus, maar dat maakte het juist extra moeilijk om die concerten kloppend te krijgen qua energie en ontwikkelingen in energie. Je kan niet altijd iets met veel energie spelen en dan statisch blijven, want dat is heel vervelend. En dat was lastig. Het kwam dus voor een deel uit de jazzwereld, zat dus een deel improvisatie in. Maar niet in de normale jazzwereld, we spelen een themaatje en dan nemen we om de beurt een solo, z'n kunde neerzetten, z'n persoonlijkheid, en dan eindig je en het is klaar. Dit ging echt over een groove neerzetten, als collectief ook. Solo's gebruiken om het contrast aan te brengen in de voortdenderende groove. En dat proberen steeds op een hoger energieniveau te krijgen. Dat moest ik ook leren in het begin, maar als je zag hoe die band functioneerde op het podium, dan was Muzikant A als performer eigenlijk wel de sleutelfiguur. **Degene die eigenlijk wat er op het podium gebeurde en wat er in het publiek gebeurde heen en weer vertaalde. Hij deed ook altijd seintjes op z'n rug, allemaal heel, t was nooit afgesproken met hem, allemaal heel organisch en natuurlijk vormt zich dat. En wij als band, we waren met z'n 6en in totaal, vijf plus Hans, pikten die seintjes op, interpreteerde die, lockte ons vervolgens ook weer bij elkaar. Zo'n seintje kon namelijk al zijn, het tempo een beetje opvoeren, dat moet je dan oppakken met z'n allen.** Anders wordt het een chaos, dat kan eigenlijk niet eens want als je daarom met elkaar gaat vechten dan wordt het lelijk. **Dus je moet daar een soort van gezamenlijkheid in vinden om dat dan op te voeren. Dat locken op al die niveaus, dat niveau van communiceren, maar ook los de drummer en de bassist die in elkaar grijpen, maar ook op welk energieniveau zitten we nu, hoe voelt dat nu en hoe voeren we dat op?** En nogmaals, nu praat ik erover, maar op het moment zelf kan ik er niet over praten, er zelfs niet over denken. Als dat op al die niveaus goed in elkaar greep, én die wisselwerking met het publiek ging goed, dan hadden we een gouden avond. En om weer even terug te grijpen op jouw termen. Ja en dat is misschien ook, ja daar zat ik ook op, *doel*. **In abstracte zin was het doel natuurlijk altijd dat optimale concert, dat is hetgeen wat je verkoopt, ook de onuitgesproken afspraak waarmee je begint. En**

achteraf iets waarop je kan reflecteren normaal, of t was van “nou ja, morgen weer een avond”, dat kan het ook zijn. Maar daar was, terwijl je ermee bezig bent is dat geen issue. Dat kan helemaal niet want je zit in het moment. En wat misschien nog wel veel belangrijker is, dat vind ik ook wel een hele interessante. Is dat wat dat gave concert op die avond is, dat weet je eigenlijk helemaal niet. Dat heeft helemaal te maken met hoe het met het publiek zit, dat kan verschillen per avond, de ruimte waar je in zit, dingen die om je heen gebeuren. Het kan ook een festival zijn, dan zitten er bands om je heen. **Dus de concrete uitdrukking daarvan, die vormt zich gedurende zo’n avond. Dus eigenlijk kun je het nooit voorspellen, je kan het niet meetbaar maken. En dat is ook wel heel interessant, ook aan muziek,** is dat ik heb hier ook wel eens wat dingen gedaan met een sportpsycholoog. En dat ging over psychologie rond prestatie. Dat ging veel over meten, zitten fysieke aspecten aan, met spieren, die heb je, loop je, enz. Maar daar zitten ook die psychologische elementen aan, daar is, heb ik begrepen, ontzettend veel onderzoek naar gedaan. En er was iemand die dacht kunnen we dat niet vertalen naar muziek. En dan met name, in dit geval ging het over prestatie bij studioproductie. Aan de ene kant zit een engineer, aan de andere kant zit een vocalist en die moet ook presteren. En daar zit ook dat mentale aspect aan dat heel erg kan blokkeren. En kunnen we dan vanuit die kennis die er is vanuit sportpsychologie, dat vertalen naar in die studio, of daar ook iets mee gedaan kan worden. Waar we eigenlijk tegenaan liepen is dat het bij sport toch gaat over “loop je die 100 meter in 10 seconden of in 9”, dat kan je meten. **Terwijl die fantastische performance in de studio, dat is een ander verhaal. Dat is een principe dat daar zit, dat maakt het heel erg lastig. Maar helemaal subjectief, dat is helemaal een doodoener. Zoals “over smaak valt niet te twisten”. Ik noem dat altijd, dan wordt er gezocht naar de intrinsieke kwaliteit van de muziek, in dit geval die vocal performance. Kan je iets daaraan meten waarvan je kan zeggen “Ja, dit is een goede, maar dit niet”, volgens mij werkt dat niet helemaal zo. En ik noem dat dan altijd de extrinsieke kwaliteit van muziek. Die vocal take op zich, uit context, kan je daar niks zinnigs over zeggen. Maar op het moment dat hij ergens de buitenwereld in gaat, dat mensen ernaar luisteren, dat het bij een concert of via spotify ofzo. Dan ontstaat er betekenis en daarmee de waarde daarvan. En die is dus wel expliciet en extrinsiek. Die zit niet in die opname zelf. En dat is waar muzikanten natuurlijk heel erg mee bezig zijn. En dan komen we terug bij het woordje doel daar. **Dat doel krijgt pas betekenis, als het in context gebeurt. En dat is iets waar zo’n groep, zo’n band als het goed is mee bezig is. En als het niet goed is dan zitten er leden in die dat niet goed begrijpen of niet goed aanvoelen. Of het wel goed begrijpen, maar zonder het in de gaten te hebben daar op verschillende manieren mee omgaan. En dan clasht het. Hoewel ze in het talige wel het gevoel hebben dat ze goed zitten, maar als ze dan gaan spelen dan is het er niet. En dat is iets, wanneer ik met bands werk, ik heb er al eens eerder over nagedacht, waar ik heel erg mee bezig ben. En als ik iets moet doen, dan zit het vaak op dat vlak. Alleen spreek ik er dan nooit over zoals ik er nu over spreek. Want dan krijg ik alleen maar vragende blikken.****

3. *Het laatste concept heet Shared repertoire, wat gezien kan worden als hetgene dat de groep produceert. Dit woord wordt natuurlijk al gebruikt in de muziekwereld op een iets andere manier, maar om even op een lijn te zitten, even de rest van de definitie: Dit moet een algemeen gedeelde resource (hulpbron?) zijn dat iedereen in de CoP moet kunnen produceren/uitvoeren, op elk gegeven moment. Wat kunt u me vertellen over het voorkomen van Shared repertoire in de bands waarmee u heeft gewerkt? En hoe presteerde deze band ten opzichte van een band waar dit niet voorkwam?*

A: **Dat vind ik wel interessant, want dat shared repertoire, als je denkt van de liedjes, dan is**

het inderdaad heel plat, maar ook daar is wel wat over te zeggen. Wat ik ooit, en nog steeds wel een beetje doe, want ik wil me wel blijven verdiepen. **Je hebt in Nederland heel veel scenes, van groepen muzikanten, niet veel, maar zo'n 30-50, die elkaar zo'n beetje losjes kennen. Die heel snel en makkelijk telefoonbezettingen vormen. Een soort netwerken, die niet helemaal gesloten zijn. En sommige mensen zitten er in meerderen, eigenlijk zou je dat willen vermijden als het om dat soort netwerken gaat, maar meestal als je daar dan onderzoek gaat doen, dan zie je dat er... hoeveel zullen het er zijn, 30 zeg maar die elkaar kennen.** En als ze dan ergens een bruiloft of een kroeg is, dan heb je in die netwerken vaak mensen die iets meer in die modus van acquisitie staan, dus die denken laten we een band bij elkaar brengen voor die bruiloft. **En die bellen dan in die groep rond. En dan zetten ze eigenlijk een telefoongroep in elkaar, en die komen dan hopelijk allemaal op tijd op dezelfde plek terecht. En die gaan dan spelen. En die hebben dan een *shared repertoire*, heel letterlijk van de liedjes die ze kunnen spelen en zo nog ongeveer wel in hun hoofd hebben en dan even een paar keer spelen en het komt wel goed. Maar er zit ook een repertoire in van handelingen, hoe pak je dat aan, hoe gedraag je je ten opzichte van elkaar. Zowel op het grote oppervlak zeg maar zo'n hele avond, als tijdens het spelen. Dus ook repertoire van hoe geef je zo'n liedje dat je niet gerepeteerd samen, hoe geef je dat vorm als je speelt. Dat zegt we gaan dat liedje doen, we tellen af, en dan ga je. En dat vind ik ook een heel interessant fenomeen.** En ik heb dat zelf altijd, toen ik net begon met muziek maken, vond ik dat heel spannend. Want dan denk je van hé shit we hebben dat niet gerepeteerd. Komt daar nou een 2 of een 3, oeps ik maak een fout. En nu vind ik het zelfs leuk en interessant om juist in zo'n netwerk dat zo'n repertoire speelt dat ik eigenlijk niet goed ken, om liedjes die ik niet goed ken om daar gewoon in te vallen voor een avond. Ik heb een soort van, dat heeft ook met leeftijd te maken, van "ja, wat kan er gebeuren, dan maak ik een fout". Ik weet al lang, ik heb al lang ervaren dat als je van het liedje het refrein goed kan spelen, maar het couplet niet, doe je je handen gewoon op je rug, en speel je tijdens het couplet niet. Want er is altijd wel een gitarist die het wel kent. En dan ga je het refrein spelen, en dan maakt het het nog muzikaal interessant ook, dan wordt het ineens dikker. Who cares? Ik vind het nu juist een soort van prettig in dat soort omgevingen. Maar daar zit misschien wel een link met dat shared repertoire. **En dat gaat verder dan het repertoire van liedjes. Scene is ook niet alleen maar de soort muziek die er wordt gespeeld, maar bijvoorbeeld ook in jouw voorbeeld de aard van het conservatorium. R'dam gaat over ambacht, A'dam gaat meer over profiel. En dat is het klassieke niet lullen maar poetsen in Rdam, Adam met imago, veel lucht. En dat zit ook in die 2 conservatoria.** Wat je wel ziet, iets dat op het niveau waar ik geopereerd heb, in NL, met popmuziek, dat hangt daarboven. Ik heb zelf ook altijd precies tussen Rdam en Adam gewoond. Ik studeerde in Rotterdam, maar probeerde altijd een best of both worlds te krijgen, meer een muzikantenscene. Ohja dat is misschien ook een grappig verhaal, ik ging zelf dus in die band spelen bij Muzikant A. Superspannend natuurlijk, want die kon internationaal touren, had ik nog nooit gedaan, ja hoogstens met een busje naar Duitsland, maar dat is een avontuur. Dit was ineens op een heel ander level, met platenmaatschappijen e.d. Die verloren mijn voorganger, de toetsenist, en op dat moment was het vooral muzikanten met een bepaalde vaardigheid. De creme de la creme van NL op dat moment, ook niet iets nieuws. Vond ik echt spannend, waarom vraagt hij mij. Was voor mij heel gek, maar wat dus bleek was hij was geïnteresseerd dat ik aan het spelen was, maar ook met electronica op het podium bezig was. Dat werd in die periode eigenlijk nog nauwelijks gedaan en hans belde omdat ik dat kon. Maar ik had, ik kan nooit zo goed spelen als die andere muzikanten. Maar ja, ik ga het toch wel doen, lig ik er in een maand uit, maar heb ik het toch meegemaakt. En dat was uiteindelijk 7-8 jaar, dus dat viel wel mee. Maar dan kom ik bij mijn punt, ik ontdekte heel snel, ik moest een jaar

lang echt ploeteren om het bij te houden, qua spel. Op een gegeven moment begon ik me wat makkelijker te voelen, dan begin je wat manieren te vinden die wat beter passen bij je eigen mogelijkheden. En dan op een gegeven moment voel je je wel meer in een rol komen. **En toen ontdekte ik dat dat spelniveau helemaal niet zo belangrijk was, je moet boven een bepaalde threshold zitten, als je eronder zit heb je een probleem, maar ik bleek daar gelukkig net boven te zitten.** Na een jaar lang hard werken en ploeteren, terwijl die muzikanten om me heen er meters boven zaten. **Maar dat bleek ineens om andere dingen te gaan. Met internationale touren ging het er bijvoorbeeld om, we waren maximaal 4 weken van huis en dan tour je. En dan ben je niet thuis, enige wat je dan bent is in hotels in een stad waar je in principe geen mens kent. En degene die wat van je willen benaderen je heel gek, want dat zijn fans.** En die vinden het helemaal fantastisch, die denken van de band van Hans Muzikant A, maar ik woon ook gewoon in een rijtjeshuis in NL, dus dat zorgt voor iets heel gek. En een ander iets is dat het contact dat je hebt zakelijk is, met de platenmaatschappij, labels, en die willen wat van je. En daar dan 4 weken mee bezig zijn, dat kan wat met je doen, op allerlei manieren, negatief. **En ik merkte om me heen, als je eenmaal boven dat spelniveau gaat, dan heb je muzikanten nodig die daarmee kunnen dealen, die dus kunnen blijven relativëren. Dat al die mensen die fans zijn, voor hun is dat een werkelijkheid, op het voetstuk staan. Maar het is een spel, daar moet je niet te veel in gaan geloven. Je moet het wel serieus nemen, want voor die mensen is het werkelijkheid, maar je moet schakelen. Tussen het spel en weer terugkeren bij jezelf. En hetzelfde geldt ook voor die zakelijke contacten die je dan tegenkomt, een ander aspect is hoe hou je je energie op peil.** Je raakt afgestompt tijdens die periode. Terwijl je toch 's avonds weer moet proberen dat energieniveau weer op stand te kunnen brengen, waar we het net over hebben gehad. **De muzikanten waar ik mee te maken kreeg die dit op een of andere manier ontdekte en daar een weg in vonden en daarin aansloten bij de anderen, dat waren de succesvolle muzikanten, en de muzikanten die dat niet lukten, die verdwenen weer.** Dus ik zag mensen om me heen die echt heel goed konden spelen, maar die niet het touren aankonden, en dus weer verdwenen uit die groep. En datzelfde, toen was ik zelf de muzikant, daarna heb ik veel in NL met grote namen gespeeld. Ik kon dat besef gebruiken met het samenwerken met die andere mensen. Dat werkte op zich hetzelfde. Dezelfde principes van hoe opereer je op het podium als groep, in relatie tot het publiek en onderling, en de artiest die het doorgeefluik is tussen de energielevels. En als in hoe opereer je in een wat grotere context als muzikant en hoe ga je daar onderling weer mee om. Terwijl ik ben echt een denker, ik ga maar nadenken en daarop reflecteren, maar dat hoeft niet per se een kenmerk te zijn van een muzikant. Je hebt mensen die begrijpen dit, maar die kunnen dit niet onder woorden brengen. Die functioneren wel optimaal.

4. *Er zijn bepaalde social skills die vooral te maken hebben met teamwork, geschaard onder de noemer teamwork knowledge. Hieronder vallen social perceptiveness (het begrijpen van non-verbale communicatie), persuasion (het kunnen/overbrengen van overtuigen/overtuiging), negotiation (mening kunnen uiten en erover onderhandelen/debatteren), instructing (uitleggen), en het goed kunnen helpen van anderen. Wat denk je van het belang van deze teamwork skills in de context van een band? Heeft u verschillen in functioneren gezien tussen bands waar er veel verschil zat tussen het aantal mensen die deze skills bezitten?*

A: En hier inderdaad weer die embodied knowledge, want het is in het moment, mensen doen uit zichzelf wat ze doen, maar het is geen kennis die op papier staat wat je dan kan gaan leren. Die je dan rationeel in je hoofd hebt van ik weet het, want dat kan helemaal niet. Non-verbale communicatie hebben we het natuurlijk wel de hele tijd over gehad. Non

verbale communicatie; die seintjes op de rug van de artiest. Maar ook de positie die je inneemt op het podium, zijn allemaal voorbeelden van communicatie. Een van die voorbeelden, is ik heb bij Muzikant A met een muzikant gewerkt, topmuzikant, kon onwijs goed soleren. En wij speelden dan en we speelden dan voor 500-10000 publiek op festivals. En het was natuurlijk een mengeling van jazz en house, dus je had van die feature achtige momenten. Van die momenten waarop een muzikant even laat zien wat ie kan, niet letterlijk naar voren stappen, maar laat gewoon zien wat ie kan. En dan weer meer naar de achtergrond. **Die Muzikant A als performer die was altijd op het podium en als dan een muzikant soleerde was hij altijd bezig met aandacht trekken naar die muzikant, non-verbaal. Houding, hoe die keek, hoe die met het publiek bezig was. Die energie tussen die solist en waar het publiek mee bezig was, was hij de hele tijd aan het moduleren.** Dat kon hij heel goed, en hij kon er ook ontzettend goed over vertellen. Ik heb ook ontzettend goed geleerd van die man. Hij werd altijd verguisd, als in hij kan helemaal geen saxofoon spelen, maar als performer en als bandleider was hij echt een held. **Maar soms dan stapte hij het podium af, even biertje halen, want je verliest vocht, en dan was die connectie weg. Dan was die solist nog steeds zo goed aan het spelen, maar dan werkte het niet zo goed. En ik had als solist, als muzikant in de gaten, dit speelt hier een rol, hier moet ik gebruik van maken.** Dit mechanisme ben ik een onderdeel van en daar moet ik wat mee. Dus ik tuneerde in op die non-verbale communicatie van Hans. Die die link met het publiek legde, daardoor kon ik met mijn wat beperkte muzikale vermogen juist heel goed functioneren. Maar andere, gewoon topsolisten, die werden dan boos. Ze speelden toch heel goed? **Maar het publiek reageerde niet meer, en die snapte niet dat die non-verbale communicatie en dat hele mechanisme daar een rol in speelde. Die gingen dan ruzie maken en dan verdwenen ze weer.** Dus dat is in dit lijstje de NVC. **Maar dingen als persuasion en de anderen zijn allemaal dingen die voor mijn gevoel buiten het directe podium. Ze hebben er wel iets mee te maken, maar meer in de repetitieruimte bijvoorbeeld. Of overtuigen, of uitleggen, en dat gebeurt zeker, maar dat is misschien ook wel een belangrijke. Zoals ik hier nu praat, zal ik nooit in een band praten, van z'n leven niet, dat komt gewoon niet aan.** Dan haakt iedereen af en is het raar naar je kijken, het valt ook wel mee, mensen zijn niet dom, maar het zou niet gepast zijn. Dus er is wel degelijk sprake misschien, maar uiteindelijk wordt dat altijd afgekadert in het spelen zelf. En of dat nou in die studio of in het podium is, het gebeurt in het spelen zelf. **En dat vind ik zelf zo fascinerend aan muziek. Voor mezelf als muzikant, persoonlijk, heb ik altijd, je merkt het een beetje, ik ben een denker, in systemen, en probeer dingen te abstraheren. Maar ik heb ook in zo'n barbaarse band gespeeld waar het puur over energie ging. Dat is in de eerste instantie niet mijn natuurlijke habitat, dat was dus ook dat jaar ploeteren, dat ik dacht van wat doe ik hier in hemelsnaam.** Komt dat jongetje met dat brilletje, dat gestudeerd heeft, in een band waar het over lelijkheid gaat, en het zo hard mogelijk, zo snel mogelijk, zo lelijk mogelijk te spelen aan het eind van zo'n concert. **En wat ik zelf wel geleerd heb is om een soort van heen en weer te togglen, vanuit intuïtie, het moment, en wat gebeurt hier nu eigenlijk. Het rationele, en dat je erover nadenkt, maar ben daarin wel een buitenstaander.**

5. *Daarop verder bouwend, over persoonlijkheid in het algemeen. Bijvoorbeeld de persoonlijkheidstrek conscientiousness, vrij vertaald als zorgvuldigheid, wat een belangrijke trek is in de wereld van bedrijfspsychologie. Het impliceert dat een persoon een taak zo goed mogelijk wil uitvoeren, terwijl die persoon nog steeds rekening houdt met zijn (morele) verplichtingen richting anderen. Dit in tegenstelling tot de taak alleen maar zo effectief en efficiënt mogelijk uit te willen voeren, ten koste van alles en iedereen (vooral t iedereen deel). Heeft dit concept enige relevantie in de context van een band of in de wereld van muziek*

überhaupt?

A: Oh ja consciëntieusheid. [leest definitie bladzijde]. **Wat mij opvalt, dat vind ik wel heel leuk. Dit heeft een negatieve bias, "scoren laag". Dit impliceert dat het, er zit een soort van waardeoordeel in. En zorgvuldige mensen zijn goede mensen.** Maar er zit dus een bias in. Terwijl dit, dat ongeremde, dat is juist op zich bij muzikanten niet verkeerd. In tegendeel zelfs. **En dan gaat het er vervolgens om, met deze eigenschappen voorkom je dat ze ontsporen. Grens van ontsporen, muziek maken, creativiteit, gaat over op de grens van ontsporen, wat gebeurt daar? Die grens tussen chaos en net niet ontsporen is interessant. Want daar gebeurt het nieuwe. En daar waar orde is, dat weten we al, en daar is iig geen creativiteit want dat weten we al.** Als ik bezig ben met bands. In studioproductie, dan gaat het vaak ook over hoe komen we op die grens. **En hoe komen we er weer weg, voordat we ontsporen. En daar heb je juist dit soort eigenschappen voor nodig, en dan is het juist goed. En dan vind ik het wel grappig, dat er hier zo'n waardeoordeel boven hangt.** Eigenlijk in ons systeem. [S legt uit waar de definitie vandaan komt]. Het hoeft niet echt iemand te zijn, maar het is gewoon een maatschappelijk idee. Het zit in onze cultuur.

6. *En bijvoorbeeld testen zoals DISC, een persoonlijkheidstest die veel wordt gebruikt in de bedrijfswereld, gebaseerd rond vier hoofd persoonlijkheden. (Leg uit met behulp van de volgende pagina). Denkt u dat testen als deze ook kunnen helpen in de wereld van bands, bijvoorbeeld met het helpen van een 'gebalanceerde band' waar deze test vooral wordt gebruikt bij het creëren van gebalanceerde werkteams? (talking about the potential influence of more than one people of the same personality type in the band)*

A: Nou ik ben er nu over aan het nadenken. Waar we het net over hadden, creativiteit, en in dit geval muzikale creativiteit, met bands. Dat gaat over randen opzoeken, chaos creëren. Dus dingen die zeg maar schuren of kapotgaan, of juist niet lekker lopen zijn niet op voorhand slecht. **Ultieme harmonie is misschien niet iets waar je in een band naartoe wil streven. Maar wat je wel wilt is stabiel. Dus wat je ziet in bands waar misschien 2 leden op een bepaalde manier dominant zijn, dat ze op andere vlakken dominant zijn. En dus niet op dezelfde manier dominant zijn, en daar dus ruzie uit krijgen, want dan is de band klaar.** Echter op andere vlakken, waardoor ze een stabiel systeem vormen. Dat ze elkaar aanvullen. **Maar je ziet ook bands waarin een iemand heel erg dominant is en dat soms tot en met diva-achtig gedrag. Dat zie je ook weer, dat is van buiten vaak minder zichtbaar. Wat ik eigenlijk een interessantere tegenpool vind, maar dus iets minder met dit te maken heeft.** Dat je in veel van die bands, muzikale samenwerkingen, Dan kom je wel weer bij mij, iets meer reflectief nadenken, bezig zijn met muziek, nadenken wat je doet. Gebruik maken van de theoretische kennis. Tegen heel erg intuïtief, en dat is meer vanuit de onderbuik. En wat je in bands vaak ziet, dat je leden dan daar in groepen kan verdelen, en dat die dan een connectie zoeken en daar dan een soort stabiel systeem krijgt. Zo heb je een soort best of both worlds. **En dat kunnen 2 dominante figuren zijn, maar de een is heel dominant vanuit t intuïtieve en die andere meer vanuit het reflectieve. Die hebben elkaar dan nodig en dat schuurt, maar omdat ze elkaar nodig hebben is dat een constructievere balans. Die levert die chaos en die creativiteit op die je nodig hebt om zo'n band verder te helpen.** Wat dit ook een beetje bij mij triggert, ik weet niet of je dat kent, dat je van die archetypische muzikanten hebt, die dan in correlatie staat met het instrument dat ze spelen. Een goede drummer is altijd een beetje een asshole, en een hele lieve drummer is meestal niet zo'n goede drummer. Bassisten zijn vaak wat introvert, maar hebben vervolgens wel een soort

van overzicht en spelen zo in een band een andere, hele belangrijke rol. Dat is wel grappig. Het gaat natuurlijk niet helemaal 100% op. **En dan kom ik weer bij dat embodiment, dat het in het moment die kennis eigenlijk zich uit in real time. En dat je daar ook helemaal niet rationeel mee bezig moet zijn. En die embodiment is iets unieks en daar hoort dat instrument ook bij.** Toetsenisten zelf zijn vaak meer vanuit het reflectieve, rationeel, en overzicht. Simpelweg omdat het instrument ook uitgaat van overzicht, je hebt letterlijk de laagste tot de hoge noot in een overzichtelijke structuur. En wat ik zelf altijd interessant vindt. Wat was nou eerst, was die piano er nou eerst en werden dat soort type mensen aangetrokken door die piano, of vice versa. Omdat ze nou eenmaal zo denken en naar een bijpassend instrument aan het zoeken waren. Een ding is dat, die wisselwerking.

7. *(Wat vindt u van de relevantie van social skills/soft skills bij bandleden voor de band zelf?)*

Ik vind het nu eigenlijk wel fijn om te horen wat je uiteindelijke idee is, je had het wel over een app in die mail. Dat triggert bij mij ook weer iets anders. Dit gaat over technologie, dit is muziektechnologie, dus dat komt goed uit. Ik ben ooit benadert door iemand van een label uit de dance industrie. Hadden een heel specifiek probleem. Heel veel genres en sub genres etc. Drempel ligt in elektronische muziek natuurlijk vrij laag. Dus twee kanten, vrij afgebakende genres, want het is allemaal heel specifiek. En een grotere groep mensen die het maken. Er komen dus onwijs veel demo's binnen, dat was het probleem. En de vraag hier was, kunnen jullie een of ander algoritme maken die als ik een zoi mp3s binnen hebt gekregen daar een voorselectie van maakt voor me. Terugbrengen tot 10 ofzo. We hadden hier toch wel onze bedenken over, stel dat dit een succes zou worden. Dan zou het algoritme zijn werk doen, en hou je er 10 over. Maar die 10 zijn een representatie van dat algoritme, dus uit die 10 kiest hij dan weer een liedje dat uitgebracht kan worden. Misschien heeft dat dan wel succes. En al die mensen die hetzij amateurs hetzij professionele mensen die bezig zijn met muziek en denken daar wil ik wel meer mee. Die gaan proberen via dat kanaal aan de bak te komen en gaan een tune bouwen specifiek voor dat algoritme. Dus je zou, in theorie ga je met dat soort algoritmes ga je eigenlijk het min(???) beïnvloeden. **Zoals heel veel technologie onderhuids een bepaalde bias kan hebben, of eigenlijk altijd heeft. Dus het eigenlijk een bepaalde kant opstuurt. En ik kan me eigenlijk helemaal niet voorstellen, we horen namelijk steeds weer dat de uitkomst slecht is, dat er helemaal geen voorbeelden zijn waarbij dat niet slecht is en waarbij het goed is de technologie in te zetten. Het blijkt vaak slecht uit te pakken.** In het domein van creativiteit, dus muziek, waar je altijd opzoek bent naar dat randje van chaos om tot het nieuwe te komen. Is dat eigenlijk de dood in de pot. Ik wil niet zeggen van je mag die app niet bouwen, maar is jouw app dan niet de dood in de pot. **Dat is een ethische kwestie. Want die gaat niet mensen die compleet niet gebalanceerd zijn volgens de 'regels', maar die zouden samen toch tot een werkbaar systeem kunnen komen, en daarmee iets heel bijzonders doen. En je systeem gaat dat niet tegenhouden, maar er is dus wel een dergelijk component aanwezig, je bent natuurlijk toch met een soort algoritme bezig.** En zeker als ik merk dat jouw impliciete premisse, nou ja niet per se van jou, maar van zo'n systeem is, het is waarschijnlijk goed als het in balans is. **En dat je dus deze kenmerken gelijk verdeeld hebt, maar misschien is dat dus helemaal niet goed, dat je juist een groep moet hebben die flink de kop tegen elkaar slaan, omdat ze allemaal, nou ja niet per se dominant zijn, maar ergens in een andere hoek zitten met z'n allen. En dan gaat het niet alleen specifiek over bands en muziek, maar die kant van creativiteit en je op zoek bent naar de rand van orde. Daar waar de chaos bevindt, is de enige plek waar creativiteit kan overwinnen.** En die heb je in bedrijven natuurlijk ook

nodig. Dus die bias van technologie. Van algoritmes, kan je heel erg inzitten van ja we mogen niks met technologie doen en jouw app mag dus niet bestaan, maar dat is een beetje gek want ik zit hier bij muziek technologie. **Eigenlijk wat hier het uitgangspunt, begint bij het bewust zijn van die bias, dan heb je het nog niet opgelost, maar je moet in ieder geval voorwaardes te maken, en proberen er het goede mee te doen en het slecht ermee te voorkomen. Ik zeg niet dat je dat moet doen, maar je moet in ieder geval bij jezelf na kunnen gaan dat als je dit vertaalt naar technologie heeft dat ethische consequenties.** Maar als het bewustzijn er is kan je al verder. Maar ik vind het juist een interessante premisse. [S: Ja ik ben altijd wel van de nuances willen zien, en niet van dit programma zegt dit, dus het is 100% waar]. Psychologische test, alle rode vlaggen gingen af, maar toch geworden. Ik wil je dit nog even meegeven, over dominanten die intuïtief of reflectief zijn. Die dominante die intuïtief zijn, zijn de diva's, zoals [artiest A] een diva is. Ik heb voor mezelf daar een soort van model hoe je daarmee omgaat, als je in dat soort projecten zit en dat soort personen er rondlopen. Dominante figuren binnen een bandsetting, maar een vocalist is eigenlijk altijd met 3 lagen tegelijk bezig. Namelijk de performer zijn, want je staat op het podium en het publiek wil iets, dat is vaak ook een bepaalde act die je uit moet voeren. Het tweede is de vertolking van de lyrics, met de tekst bezig en daar zit betekenis in die moet overgebracht worden, en het derde is de eigen persoonlijkheid. Je bent ook jezelf, dus je speelt 3 rollen tegelijk. Die meer intuïtieve figuren, daar versmelten die 3 rollen, waardoor als het op 1 niveau fout gaat gaat het op alle andere niveau fout. Dan krijg je dat divagedrag dat volkomen wispelturig is en heel lastig is om mee samen te werken. Aan de andere kant komt het daardoor wel heel natuurlijk over. Het is super authentiek. Dat weten ze vaak niet van zichzelf, ze zijn gewoon wie ze zijn. Tegenpool daarvan is iemand als artiest B en die weet dondersgoed die dingen te onderscheiden, ik heb het er nooit met hem over gehad, maar hij weet dondersgoed dat hij er mee bezig is, en weet dat zo goed met elkaar te vermengen dat hij ook authentiek overkomt. Als hij op een vlak ene probleem heeft, raakt dat niet het andere vlak, dan gaat hij gewoon door. Zijn methode daarbij is humor, en daar knoopt hij die 3 niveaus aan elkaar, op een authentieke manier. **Ook artiest B is behoorlijk dominant, maar vanuit het reflectieve, en artiest A meer uit het intuïtieve. En voor mij bepaalt dat, als ik in producties werk en dicht op die mensen zit, zo moet ik met A omgaan en zo moet ik met B omgaan. Dat is wel weer een link met dit DISC ding.**

Interview Transcript Participant 2

1. *De eerste drie vragen zullen gaan over de drie aspecten van een Community of Practice. Dit is een soort gemeenschap of werkgroep, waarvan ik de aanwezigheid van aan het onderzoeken ben in de wereld van muziek. Wanneer alle leden van een groep hun neuzen dezelfde kant op hebben (een common purpose), iets wat ze samen zou binden, en ervoor zorgt dat ze samen naar hetzelfde doel werken, heet het een joint enterprise. Dit is een van de drie ingrediënten die een groep moet hebben om een Community of Practice te zijn. Wat kunt u me vertellen over het voorkomen van Joint enterprise in de bands waarmee u heeft gewerkt? En heeft u voorbeelden van hoe deze band presteerde ten opzichte van een band waar dit niet voorkwam?*

A: Ja, zeker. Bijvoorbeeld als je de vrienden van Amstel hebt en je hebt daar een huisband die een paar artiesten begeleiden, dan is het doel heel duidelijk. Van je hebt een dag om te repeteren en de volgende dag is de show bij wijze van spreken. En dat is dan het doel. **Met het poporkest dan heb je gewoon een bepaald optreden aan de horizon en dat is allemaal heel spannend. Dan merk je dat gaandeweg, als je een week hebt om te repeteren, dat in het begin iedereen nog een beetje all over the place is. En op een gegeven moment komt dat samen en dan merk je gewoon dat iedereen gefocust is op het doel. Ook bijvoorbeeld met eigen werk bands, zeker met studenten, in het begin hebben ze zoiets van we repeteren maar, maar waarvoor eigenlijk. Als je dan iets schetst of laat zien, van eind maart sta je op dat en dat festivals. Je toont er wat officials bij, dan wordt het overzichtelijk en meer inzichtelijk in wat je wil bereiken met z'n allen. Dan merk je dat er meer gefocust en gerepeteerd wordt.** Ook buitenom de vastgestelde repetitietijden worden er repetities gepland.

2. *De volgende twee vragen zullen ook gaan over het CoP concept. De vragen zullen uitweiden over de overige twee ingrediënten van een CoP. Een CoP werkt door zijn Mutual engagement. Dit zijn de interacties die plaatsvinden binnen de groep, en helpt ze samenwerken naar hun doel en maakt ze als het ware één sociale entiteit. Belangrijk is dat deze interacties vooral plaatsvinden (naast sociale interactie) om informatie uit te wisselen, en niet te onttrekken (wat ik nu aan het doen ben). Iedereen in een CoP moet op een bepaald gelijk niveau zitten qua basiskennis aangaande hun eigen domein. De mutual engagement interacties zullen de leden helpen hun basiskennis uit te breiden. Wat kunt u me vertellen over het voorkomen van mutual engagement in de bands waarmee u heeft gewerkt? En hoe presteerde deze band ten opzichte van een band waar dit niet voorkwam?*

A: Ja. Ik zie dat vaak bij wat eerstejaars bands. Die zijn dan heel toevallig bij elkaar gezet door ons. **En heel soms maak je mee dat zo'n band, k was toevallig 2x achter elkaar bandcoach van 2 opeenvolgende eerstejaars. En die passen zo goed bij elkaar, dat ik haast stond te juichen. Dat was zo gaaf, gewoon het bewijs van het geheel is meer dan de som der delen.** Maar dat herkennen ze zelf dan niet, het jaar daarna zeggen ze dan "het is wel gaaf, maar ik ga toch met die en die verder" en dat is zonde. **Dan zie je bands ontstaan die wel grappig zijn, maar nooit zo bijzonder als die eerste combinatie. En dat ze dat niet zelf herkennen dat heeft volgens mij ook te maken met verschillende verwachtingen ofzo. Maar daar ben k nog niet helemaal achter.** Bijvoorbeeld de oude Muzikant B band, met Muzikant C, Muzikant D, Muzikant E, Muzikant F. In het begin was het alleen hen vieren met Muzikant B en die combinatie is echt bizar. Wat ze met zn 4en teweegbrengen is gewoon geweldig. En toen ik erbij kwam werkte dat gewoon nog steeds goed. **Met die band, wat ik daarmee heb**

meegemaakt op het podium dat je gewoon je ogen dichtdoet en niks hoeft uit te leggen aan elkaar. Dat je met z'n allen opstijgt, ja dat maak je gewoon maar heel af en toe mee. Dat is niet per se aan te wijzen ofzo. Het vliegt een soort voorbij, dus je hebt het op het moment zelf niet zo erg door. Iedereen is in totale overgave op dat moment. Je hebt zeker een bepaald basisniveau nodig, maar als je het absoluut zou meten zouden er zeker verschillen zijn. Maar het is gewoon dezelfde overgave en dat geeft vertrouwen. (“Hoe was het dat u in de band kwam?”) Ik had met iedereen al los op andere dingen gespeeld. We kenden elkaar heel goed, van andere bezettingen. Volgens mij bestond die bezetting 4 jaar, en toen kwam ik erbij. Je wist wat je kon verwachten, het voelde meteen vertrouwd. En met andere bezettingen maak je dat ook wel mee, maar in die mate is echt bizar. Maar dat heeft dan ook weer met verschillende sub-combinaties te maken. **De twee gitaristen die passen bizar goed samen, drummer en bassist die hebben wat tegenstellingen, maar dat paste op een of andere manier goed samen.** (“Hoe werkt dat met grotere groepen?”). In een orkest, bijv het Metropole orkest. De blazers hebben dan bijvoorbeeld iets. Daarbinnen heeft het koper dan een groepje, trompettisten bijvoorbeeld. Saxofonisten hebben ook een groepje. En er is ook een klein onderling dingetje tussen houtblazers en het koper. Dus die hebben een ding, maar als het goed is worden die samengebracht door elkaar, als het goed is, maar ook door de dirigent. En dan heb je de strijkers en die hebben te maken met volume. Die klagen wel vaak over het is te hard. Dus die vormen een soort front samen. Uiteraard de ritmesectie, zitten ook een onderling ding in. En als je gewoon een goede dirigent, hele goede arrangementen, en een hele gave muziekstijl en vibe, dan komt het samen. Dan zijn de strijkers samen, de blazers samen, en dan wordt het echt gaaf. **Maar er zijn alsnog meestal eerst groepjes, groepjes, groepjes. Voordat dat samen een groot geheel wordt.** (“Hebben jullie een bepaalde manier van die mensen bij elkaar brengen in het eerste jaar”) Nee wij kennen die mensen niet. Dus we stoppen gewoon wat mensen bij elkaar. Op een bord gewoon de verschillende instrumenten opdelen en indelen. En meestal hebben we voor de eigen werk bands, dat ze 2-3 weken met elkaar kunnen jammen, dan wisselen ze en leren ze elkaar een beetje kennen. En dan na een halfjaar of het eerste semester komt het meestal dan wel goed. **Soms heb je één rampenband, die echt niet met elkaar door een deur kunnen. En die moet je dan uit elkaar halen.** (“Waar komt dat meestal vandaan, de rampenband?”) Meestal is de oorzaak de verschillende muziekstijlen, maar ook dat er een of twee zijn die net een paar passen minder lopen of met hun hoofd ergens anders zijn. En de rest van de band heeft dan dat pik ik niet, want wij willen gewoon allemaal dezelfde energie. Ander niveau van inzet.

3. *Het laatste concept heet Shared repertoire, wat gezien kan worden als hetgene dat de groep produceert. Dit woord wordt natuurlijk al gebruikt in de muziekwereld op een iets andere manier, maar om even op een lijn te zitten, even de rest van de definitie: Dit moet een algemeen gedeelde resource (hulpbron?) zijn dat iedereen in de CoP moet kunnen produceren/uitvoeren, op elk gegeven moment. Een andere interviewee had het al over scenes en bepaalde gedeelde eigenschappen. Wat kunt u me vertellen over het voorkomen van Shared repertoire in de bands waarmee u heeft gewerkt? En hoe presteerde deze band ten opzichte van een band waar dit niet voorkwam?*

A: Nou het was toen ik hier studeerde, in de begin jaren 90, 94. Gingen we spelen overal. Rotterdam was nogal redelijk een livescene, en Amsterdam nog wel meer. Dus het was voor mij nog best wel spannend, in Amsterdam gebeurde het voor mij. **Ik vond het juist wel heel erg gaaf om het allebei mee te maken. Rotterdam had een soort van naam, van daar komen de sessiemuzikanten vandaan, die kunnen heel goed spelen. Is een beetje gechargeerd natuurlijk, heel zwart-wit gezien eigenlijk. De conservatoria zijn wel zo geprofileerd, R'dam**

artistiek en ambacht. Amsterdam met name eigenheid, inzetten op het artiest zijn, grof gezegd. En dat zie je dan ook wel een beetje terug in het soort muzikanten dat er vandaan komt. Ja op een gegeven moment werd de live scene wat minder in Rotterdam, wat minder gespeeld. Die zijn alleen maar aan t spelen met de artiesten overal, bijna geen tijd om zelf te jammen. Sinds een aantal jaar is dat weer een beetje booming. Amsterdam, is dat iets minder, maar toch sinds een paar jaar weer beter geworden. Ja het is lastig, want je hebt te maken met zo'n imago bij steden die een conservatorium hebben. Maar je ziet soms ook wel wat uitzonderingen. En ik vind eigenlijk wel de leukste bands, degene die een soort mix hebben. Supergaaf om met Amsterdammers te spelen. En andersom merk je dat ook. Ik merk wel van mezelf ik ken de R'damse scene het best, dus daar voel ik me wel vertrouwd mee. **Maar ja gaandeweg leer je ook uit de A'damse scene mensen kennen. Ontstaat er een netwerk. Tilburg, Utrecht, Groningen, er zijn zoveel goede scenes die eigenlijk bijna nauwelijks mixen. ("Gebeurt het altijd dat mensen die van verschillende genres houden niet willen mengen?") Ze proberen het wel en als buitenstaander, bandcoach probeer je hiervan te profiteren, een soort nieuwe stijl te creëren met een metalband en een popband gecombineerd.** Het is logisch, want het is ook lastig als je heel erg van metal houdt. Dan wil je het liefst gewoon binnen dat genre blijven er dichtbij staan, en andersom. ("Gebeurt het wel dat mensen zich eraan toegeven?") Nee er zijn wel eigenwerk bands, waarbij gewoon ... Die zijn nu best wel in de progrock populair. En die spelen behoorlijk veel. Iemand kwam uit de theaterwereld, beetje prog, maar is geen rock. De drummer kwam meer uit metal volgens mij. De zangeres was gewoon pop. Tezamen hebben ze een soort progrock band. Toetsenist komt een beetje uit het theater, vooral piano, gaandeweg op het conservatorium meer met sounds gaan werken. En daar is ze heel handig in geworden. En dan merk je dat mensen naar elkaar toe groeien, je hebt daar alleen wel een jaar of 4 nodig. Golden Caves, Chef special. Komen grotendeels hier vandaan. Reggae, pop, hiphop. Er zijn wel gewoon heel veel gemiste kansen, de meesten zoeken elkaar op en dan krijg je de zoveelste rnb, of hardrockband. **Als je iets meer openstaat voor andere stijlen, dan krijg je er gewoon veel interessantere dingen van.**

4. *Er zijn bepaalde social skills die vooral te maken hebben met teamwork, geschaard onder de noemer teamwork knowledge. Hieronder vallen social perceptiveness (het begrijpen van non-verbale communicatie), persuasion (het kunnen/overbrengen van overtuigen/overtuiging), negotiation (mening kunnen uiten en erover onderhandelen/debatteren), instructing (uitleggen), en het goed kunnen helpen van anderen. Wat denkt u van het belang van deze teamwork skills in de context van een band? Heeft u verschillen in functioneren gezien tussen bands waar er veel verschil zat tussen het aantal mensen die deze skills bezitten?*

A: Het is sowieso heel belangrijk, tenminste als je als band verder wil, om in ieder geval een paar van die dingen onder de knie te hebben. ("Allemaal in een bandverhaal ook even belangrijk") **Als bandleider is het in ieder geval heel belangrijk dat je op een hele relaxte, respectvolle manier kan overbrengen. Relaxedheid is het belangrijkste. Je hebt te maken met, als het goed is, met mensen die heel goed hun vak verstaan. Dus je moet er eigenlijk gewoon naast staan en je zeker niet als bandleider profileren, maar meer als aanspreekpunt/contactpersoon.** Net zoals ik, je blijft degene die communiceert met de buitenwereld. Maar zo kort en bondig mogelijk de info doorgeven die nodig is, is heel belangrijk. ("Non-verbaal of niet?") **Nee niet alleen maar non-verbaal. De cue voor het einde of iets herhalen. Het scheelt heel erg als je te maken hebt met een orkest. Je moet toch iets meer erboven staan dan.** Maar de bandleider van. Ja de band leden van Muzikant B zijn gewoon minimaal gelijken. Dan is bandleider zijn heel anders, dan in een orkest. **En in principe loop het allemaal door elkaar, die traits, iedereen heeft interesse dus denkt mee. Dus je**

krijgt hoe dan ook dat iemand zegt “misschien is het beter dat we het zo doen?” Zeker ook fijn voor de bandleider. Het verschilt ook heel erg, want bij iemand als Muzikant B is er heel veel ruimte voor invloed van de band. Dat verwacht ze ook, en vaart ze wel bij. Dus denkt iedereen mee. Maar als je een tv-show moet doen en alles moet snel dan is er niet echt tijd voor onderhandelen. Hoogstens heel kort, maar het is vooral “Go gogo, A’tje 2x, drums rustig op het eind en verder”. En vaak moet je dan nog een knip doen die helemaal niet muzikaal is. En dan krijg je zo’n gezicht van iemand, van ja het is heel stom zo, maar ja weet ik veel we doen gewoon wat er gevraagd wordt en laten we gewoon verdergaan.

5. *Daarop verder bouwend, over persoonlijkheid in het algemeen. Bijvoorbeeld de persoonlijkheidstrekkent conscientiousness, vrij vertaald als zorgvuldigheid, wat een belangrijke trek is in de wereld van bedrijfspsychologie. Het impliceert dat een persoon een taak zo goed mogelijk wil uitvoeren, terwijl die persoon nog steeds rekening houdt met zijn (morele) verplichtingen richting anderen. Dit in tegenstelling tot de taak alleen maar zo effectief en efficiënt mogelijk uit te willen voeren, ten koste van alles en iedereen (vooral t iedereen deel). Heeft dit concept enige relevantie in de context van een band of in de wereld van muziek überhaupt?*

A: Ja. Ja, als ik dit lees dan zijn verschillende goede bands wel een soort mix daarvan. **Terwijl ze vaak, laten we zeggen dat muzikanten niet vaak hoog scoren op conscientiousness. Tenzij je in een circuit zit waar er alleen maar wordt gevraagd om te spelen wat er staat. Musical bijvoorbeeld. Tenminste daar kom je dat vaak tegen.**

6. *En bijvoorbeeld testen zoals DISC, een persoonlijkheidstest die veel wordt gebruikt in de bedrijfswereld, gebaseerd rond vier hoofd persoonlijkheden. (Leg uit met behulp van de volgende pagina). Denkt u dat testen als deze ook kunnen helpen in de wereld van bands, bijvoorbeeld met het helpen van een ‘gebalanceerde band’ waar deze test vooral wordt gebruikt bij het creëren van gebalanceerde werkteams? (talking about the potential influence of more than one people of the same personality type in the band)*

A: (“Toevoeging van het uitleggen van het balansgedeelte”) Ja, bij Muzikant B als ik me dat even voor me zie. De drummer is zeker een D, maar de bassist heeft dat ook wel een beetje, maar zit ook aan de I kant. De twee gitaristen zijn dan de I en de S gecombineerd. Het is lastig, want ook met een vleugje van D. **Maar ik merk wel dat het inderdaad vaak naast elkaar zal liggen op de cirkel, als iemand een combinatie is.**

Dan heb je de bassist en de drummer die een verschillende uitleg hebben van D, dus daarom kan het samen. Ze hebben een modus gevonden daarbinnen hoe dat werkt. Dus binnen de muziek kan je juist weer wel hebben dat het goed gaat met twee D’s, maar dan zullen ze waarschijnlijk wel een eigen modus daarvan moeten hebben. Maar je merkt al met bandjes, als ze bij elkaar zitten dan zie je dat gewoon. Je kan zo aanwijzen wie wat is. Dus dit zou je negatief gezegd een volger kunnen noemen (S). **En het is altijd heel fijn als bandleider dat er een paar C’s en I’s aanwezig zijn.** (“Zou het goed zijn als je een compleet gebalanceerde band zou hebben?”) Het is een afspiegeling van de hele samenleving natuurlijk. **Als mensen samenwerken. En dan heb je liever balans, maar balans is ook een soort van saai ofzo. Dus ik vind het zelf altijd wel gaaf als er botsingen zijn en dan levert het stiekem ook nog the Police op ofzo. Die hadden altijd botsingen, en het levert toch gave dingen op. Dus aan de andere kant zou het niet succesvol zijn voor... [andere locatie] Maar als je het hebt over ideaal, over creatieve bands is het wat mij betreft ideaal als er wat botsingen zijn. Bijvoorbeeld in het orkest, dan is het het beste als het echt een mix. Met de**

verschillende secties met daarbinnen verschillende types, maar wel weer een hoofdtype per instrument.

7. *(Serendipiteit)*

Werkdruk verdeling vragen we wel altijd naar, inzet zeg maar. Maar je merkt altijd beide situaties, het ligt er een beetje aan. Soms zijn er twee songwriters ofzo, die vinden het niet zo'n probleem dat er een paar zich minder inzetten. Hoewel je soms ook te horen krijgt dat mensen ervan balen hoor, niemand reageert op appjes of smsjes.

Met zo'n tvband gaat het heel erg om precisie en dat het erger is als mensen fouten maken. Daar zit ook wat energie bij. Met een rockband, bijvoorbeeld Kane vroeger ging het over gewoon gaan, en de energie moest gewoon goed zijn.

(Hoe is die band bij elkaar gekomen) Bij Ik hou van Holland is het samengesteld uit mensen die... Ze hadden een aantal opties en ik werd gevraagd om te kiezen welke band ik dan wil. Toen koos ik voor de band met wie ik het meest gespeeld had. De vrienden van Amstel is samengesteld uit een basis van de oude band van Muzikant B. Maar dat zijn ook hele heftige persoonlijkheden bij elkaar. Omdat iedereen altijd alles het beste wil, dan krijg je wat strijd, omdat dat beste dan door mensen anders worden ingevuld in hun hoofd. Puur emotie wat later dan tot omhelzingen en complimenten leiden. Alles voor het hogere doel, maar op het moment zelf heb je wat persoonlijke dreigingen. Het gaat er niet om het persoonlijke ding, maar om het totale ding. En dat is juist heel fascinerend. Maar die groepen zijn dus bij elkaar gezet door netwerken.

Appendix C: Focus group data sheet

1ste Jaars: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
 2de Jaars: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
 3de Jaars: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
 4de Jaars: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

A: IIII

B: IIII IIII IIII IIII

"Repeteren en aantal oefeningen scheiden ipv. een knop"

1-7 s/b 2x

"chat functie"

"I think it's ^{Really} important to add animation, because a lot of tension comes from that source"

"gender" "flexibel"

"Location at moment for stationary"

"cover voor eigen werk verplicht" ~~3x~~ 12x

"genre, skill" "II Hoeveel jaar / zijn conservat. achtergrond"

"Bekindbaarheid, dat kan rennen" "Rooster"

"~~toe~~ op sessies"

"meer dominanten die goed samen gaan"

"LatterE is nu plek aangeven"

"Niet alleen cover/eigen werk"

"flexibiliteit"

"productie functies toevoegen"

"systeem voor zija, met
 Has tags op reactie +
 zien functie"

Appendix D: Original Likert Questionnaire

This is the original first part of the questionnaire. The second part would have been a standard DISC test.



Stephan den Ouden

Universiteit Utrecht

University Utrecht

Thank you for taking the time to fill in our questionnaire! I am trying to find out if personality and a balanced line-up can help towards forming bands that can be successful in the long run working together. This data can be used in the design of a mobile application. In this application people can be matched with other musicians in their neighborhood to form a band that will have these characteristics. Below you will find a list of statements which you will have to **rate from 1 (Not important) to 5 (Very important)**. Please note that you will have to score the statements on the importance or influence they had on your experiences **personally**, so not as an objective measure! I'm also looking to potentially discover some other concepts or ideas that could be important in the scope of this research, one example has already been given. Take your time to rate all statements by marking the relevant square with an X.

Participation is of course completely voluntary, and you can stop at any moment without stating a reason. Afterwards, there will be a focus group in which I invite each of you to participate. In this focus group we will (in an informal way) discuss your opinions on this questionnaire and the research in general. This will be recorded. All data gathered will be anonymous and the questionnaires and audio files will be destroyed 6 months after the end of the experiment.

		1: Not important – 5: Very important				
Statement		1	2	3	4	5
	For me to have a good and creatively fulfilling time in a band...					
1	... every member should have the same ambitions and goals in the band					
2	... every member should have the same interests (preferred genre, i.e.)					
3	... a band culture needs to be established over time (inside jokes, influences, etc.)					
4	... the members need to be somewhat at the same skill level					
5	... before entering the band the members already share some songs in their individual repertoire					
	Band member personalities					
6	Band members need to not only understand verbal but also non-verbal communication to a degree					

7	My answer to question six has been one of the reasons why I like(d) being in the band that was the most successful* in my experience					
8	My answer to question six has been one of the reasons why the least successful* band, in my experience, didn't work					
9	Band members need to feel that everybody is working equally hard					
10	My answer to question nine has been one of the reasons why I like(d) being in the band that was the most successful* in my experience					
11	My answer to question nine has been one of the reasons why the least successful* band, in my experience, didn't work					
12	Band members need to be able to express their opinions and not keep them for themselves.					
13	My answer to question twelve has been one of the reasons why I like(d) being in the band that was the most successful* in my experience					
14	My answer to question twelve has been one of the reasons why the least successful* band, in my experience, didn't work					
15	Band members need to be able to instruct each other (songs, ideas, skills)					
16	My answer to question fifteen has been one of the reasons why I like(d) being in the band that was the most successful* in my experience					
17	My answer to question fifteen has been one of the reasons why the least successful* band, in my experience, didn't work					
18	Band members need to be able to help one another					
19	My answer to question eighteen has been one of the reasons why I like(d) being in the band that was the most successful* in my experience					

20	My answer to question eighteen has been one of the reasons why the least successful* band, in my experience, didn't work					
----	--	--	--	--	--	--

*Existed for the longest time, most gigs, many successful rehearsals, etc.

	The presence of one or more members with a ... personality has influenced my most successful band experience (X or how many people)	In a bad way	In a slightly bad way	Neutral	In a slightly bad way	In a good way
21	Dominant, decisive but an alpha-male/female					
22	Influential, inspirational but impulsive					
23	Stable, supportive and sincere, but also sensitive and rather slow					
24	Compliant, careful and listening, but also very calculating and not opinionated					
	The presence of one or more members with a ... personality has influenced my least successful band experience (X or how many people)					
25	Dominant, decisive but an alpha-male/female					
26	Influential, inspirational but impulsive					
27	Stable, supportive and sincere, but also sensitive and rather slow					
28	Compliant, careful and listening, but also very calculating and not opinionated					

	Other concepts important for a successful band	Negative				Positive
29	The experience of flow (group flow) while rehearsing and/or performing with a band. (score on not important to very important)					
30					
31					

32					
33					
34					

*Existed for the longest time, most gigs, many successful rehearsals, etc.

Please feel free to use the textbox below to elaborate on your answers if you want to.

Thank you for taking the time to fill in my questionnaire!

Feel free to contact me at S.P.denouden@students.uu.nl if you have any questions regarding this questionnaire or this project.